



## **Part I: Project Information**

### **GEF ID**

10981

### **Project Type**

MSP

### **Type of Trust Fund**

GET

### **CBIT/NGI**

CBIT No

NGI No

### **Project Title**

Implementation and institutionalization of a National Monitoring and Management Frameworks for Living Modified Organisms and Invasive Alien Species

### **Countries**

Cameroon

### **Agency(ies)**

UNEP

### **Other Executing Partner(s)**

Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)

### **Executing Partner Type**

Government

### **GEF Focal Area**

Multi Focal Area

### **Sector**

### **Taxonomy**

Focal Areas, Biodiversity, Species, Livestock Wild Relatives, Invasive Alien Species, Threatened Species, Wildlife for Sustainable Development, Crop Wild Relatives, Animal Genetic Resources, Illegal Wildlife Trade, Supplementary Protocol to the CBD, Biosafety, Land Degradation, Influencing models, Stakeholders, Gender Equality, Capacity, Knowledge and Research

**Rio Markers**

**Climate Change Mitigation**

No Contribution 0

**Climate Change Adaptation**

No Contribution 0

**Biodiversity**

Principal Objective 2

**Land Degradation**

Significant Objective 1

**Submission Date**

4/28/2023

**Expected Implementation Start**

9/1/2023

**Expected Completion Date**

8/30/2026

**Duration**

36In Months

**Agency Fee(\$)**

134,412.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

<b>Objectives/Programs</b>	<b>Focal Area Outcomes</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
BD-2-6	Address direct drivers to protect habitats and species through the Prevention, Control and Management of Invasive Alien Species	GET	753,973.00	3,768,850.00
BD-3-8	Further development of biodiversity policy and institutional frameworks through the Implementation of the Cartagena Protocol on Biosafety	GET	349,339.00	1,500,000.00
LD-1-4	Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape	GET	311,552.00	1,558,775.00
<b>Total Project Cost(\$)</b>			<b>1,414,864.00</b>	<b>6,827,625.00</b>

## B. Project description summary

### Project Objective

To strengthen institutional biosecurity frameworks in the management of living modified organisms and invasive alien species through a coordinated risk analysis measure

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Integrated Biosecurity policy, regulatory and institutional frameworks established and operationalized	Technical Assistance	Integrated Biosecurity policy, regulatory and institutional framework established and operationalized	<p>A.1. A National Biosecurity Strategy (NBS) developed, validated and supported by budgeted action plans.</p> <p>A.2. A cross-sectoral policy coordination framework established for the incorporation of biosecurity issues into the legal and policy framework of mandated agencies, updated.</p> <p>A.3. Framework for improved cross-sectoral planning and coordination of biosecurity promotion, updated.</p>	GET	110,000.00	500,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
.Incorporation of biosecurity measures into pathways for monitoring and management of biological introductions.	Technical Assistance	Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response tested and implemented at project pilot sites	<p>B.1. Pilot risk-based management procedures in accordance with international standards in place for LMOs &amp; IAS.</p> <p>B.2. Partnership arrangements (MoUs), initiated and agreed upon with other land degradation initiatives regarding collaboration in decision making process to address biological invasions in relation to some land restoration measures.</p> <p>B.3.Pilot cost recovery mechanism undertaken, per sector</p>	GET	434,986.00	2,250,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Biosecurity Capacity integrated in regulatory, institutional and national education systems	Technical Assistance	<p>3a. Functional Administrative system with operational capacity to manage LMO and IAS introduction.</p> <p>3b. Institutional capacity strengthened with the use of knowledge management and learning strategies for effective biosecurity.</p>	<p>C.1. National biosecurity capacity strengthened for diagnostic, testing and monitoring of LMOs &amp; IAS, and, mainstreamed into other sectors.</p> <p>C.2. Sufficient equipment and infrastructure in place.</p> <p>C.3. The National Biosecurity Communication and Awareness raising Plan implemented.</p> <p>C.4. Information and communication products developed and distributed.</p> <p>C.5. A National Biosecurity Information System (NBIS), including a participatory monitoring network using</p>	GET	625,878.00	2,844,863.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
			citizen science and modern ICT is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols.			
Project Coordination M & E	Technical Assistance	Effective Project Coordination and management with agreed measurable outputs and indicators.	D.1. Project Benefit Monitoring and Evaluation plan implemented.  D.2. Mid Term / Terminal - Monitoring and Evaluation (UNEP).	GET	120,000.00	550,000.00
<b>Sub Total (\$)</b>					<b>1,290,864.00</b>	<b>6,144,863.00</b>
<b>Project Management Cost (PMC)</b>						
			GET	124,000.00		682,762.00
			<b>Sub Total(\$)</b>	<b>124,000.00</b>		<b>682,762.00</b>
			<b>Total Project Cost(\$)</b>	<b>1,414,864.00</b>		<b>6,827,625.00</b>

Please provide justification

**C. Sources of Co-financing for the Project by name and by type**

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
Recipient Country Government	Ministry of Environment, Protection of Nature and Sustainable Development	Grant	Investment mobilized	200,000.00
Recipient Country Government	Ministry of Environment, Protection of Nature and Sustainable Development	In-kind	Recurrent expenditures	6,627,625.00
<b>Total Co-Financing(\$)</b>				<b>6,827,625.00</b>

**Describe how any "Investment Mobilized" was identified**

The Government of Cameroon, has set aside \$200,000 as cash cofinancing to support the project management unit in operational delivery over the project period in the management of field pilot site activities, the work of technical adhoc expert groups and office set up.



**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	GET	Cameroon	Biodiversity	BD STAR Allocation	1,103,312	104,815	1,208,127.00
UNEP	GET	Cameroon	Land Degradation	LD STAR Allocation	311,552	29,597	341,149.00
<b>Total Grant Resources(\$)</b>					<b>1,414,864.00</b>	<b>134,412.00</b>	<b>1,549,276.00</b>

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount (\$)**

50,000

**PPG Agency Fee (\$)**

4,750

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
UNEP	GET	Cameroon	Biodiversity	BD STAR Allocation	20,000	1,900	<b>21,900.00</b>
UNEP	GET	Cameroon	Land Degradation	LD STAR Allocation	30,000	2,850	<b>32,850.00</b>
<b>Total Project Costs(\$)</b>					<b>50,000.00</b>	<b>4,750.00</b>	<b>54,750.00</b>

## Core Indicators

### Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5000.00	10000.00	0.00	0.00

#### Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Cropland		5,000.00		

#### Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00	2,000.00		

#### Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
Woodlands	1,000.00	1,000.00		

#### Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
2,000.00	2,000.00		

### Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	2000.00	0.00	0.00

#### Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	2,000.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
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**Documents (Please upload document(s) that justifies the HCVF)**

Title	Submitted
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Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	5,000	5,000		
Male	5,000	5,000		
<b>Total</b>	10000	10000	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

The proposed project interventions will contribute to BD-2-6 and BD 3-8 addressing drivers to protect habitats and species through the the Implementation of the Cartagena Protocol on Biosafety and its Nagoya ? Kuala Lumpur Supplementary Protocol on Liability and Redress and the Prevention, Control and Management of Invasive Alien Species . This will ensure that tools, interventions and capacity are put in place to support science-based decision making in the sustainable utilization of biodiversity. The results and deliverables contribute to the Kunming-Montreal Global Biodiversity Framework (GBF) for 2030, especially Target 6 on Invasive Alien Species in terms of eliminating, minimizing, reducing and/or mitigating the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species; preventing the introduction and establishment of priority invasive alien species; and, controlling invasive alien species especially in priority sites, such as islands. Target 17 on establishing, strengthen capacity for and implement Biosafety measures as set out in Art. 8g of the CBD and measures for the handling of biotechnology and distribution of its benefits as set out in Article 19 of the CBD. The project will also contribute to Targets 20 on strengthening capacity-building and development, access to and transfer of technology as well as Target 21 on ensuring best available data, strengthening communication, awareness-raising, education, monitoring, research and knowledge management; and, by ensuring prior informed consent or advanced inform agreements in the handling of biological introductions, inclusion and transparency in decision making with clearly defined roles for indigenous and local communities in accordance with Art. 8j of the CBD. Furthermore, this project will also contribute to BD -4 Program 9 and LD-2 Program 3 by supporting mechanisms for forest landscape management and restoration.

## Part II. Project Justification

### 1a. Project Description

? Global Environmental Problems:

The Republic of Cameroon, is bordered by Nigeria to the west, Chad to the northeast, the Central African Republic to the east and Equatorial Guinea, Gabon and the Republic of the Congo to the south. Cameroon's coastline lies on the Bight of Biafra, part of the Gulf of Guinea and the Atlantic Ocean. The latitudinal coordinate of Cameroon is 7.3697° N. The longitude of this country is 12.3547° E. The country has a total land surface area of 475,442 km<sup>2</sup>, Cameroon has a population of approximately 23.5 million inhabitants. The population can be divided into eight ethnic groups (Cameroon Highlanders; Equatorial Bantu; Kirdi; Fulani; North-western Bantu; Eastern Nigritic; other Africans; and non-Africans). About 80% of its population speak French and 20% speak English as their principal foreign languages.. Cameroon is a Republic with a President as Head of State, and a Prime Minister who is considered the official head of government, an upper house (Senate) and Lower House (National Assembly). Cameroon ranks 26<sup>th</sup> in Africa in terms of GDP per capita (US\$ 3,358 in 2017), it displays low levels of human development (HDI of 0.518 in 2015) and medium levels of inequity (GINI coefficient of 44.6 in 2007). The Cameroonian economy is based on agriculture, forestry, mineral resources, fisheries and some emerging industry. Its main exports are primary products with major markets including France, Italy, South Korea, Spain, the United Kingdom and Nigeria. With regards to import, Cameroon's main imports are cereals, fish and capital equipment. The country's main import partners are China and France. Others include: Nigeria, Belgium, Italy and United States[1].

### Living Modified Organisms (LMOs)

Agriculture is the backbone of the Cameroonian economy, engaging approximately 70% of the population. Most agriculture is carried out at the subsistence level but there is also an important commercial sector producing cash crops such as banana, cocoa, oil palm, rubber, coffee, tea, sugar, and tobacco. It has been reported that the adoption of genetically modified crops can be of great benefit for the country, for example by increasing crop yields and by utilizing 'green' practices such as the reduction of pesticide use and irrigation. However, there are potential risks to the technology such as invasiveness, 'genetic pollution' of local biodiversity through gene transfer, health impacts on livestock and people as well as adverse socio-economic effects on the agricultural production chain by commercial farmers and large transnational corporations. Therefore, in line with the provisions of the Cartagena Protocol on Biosafety, it is imperative that LMO introductions are guided by a science-based risk analysis process, including post-introduction monitoring. A key component of the Cameroon Biosecurity project has been the establishment of an objective risk-based approach to the management of proposed species (LMO and non-LMO) introductions. Under this project, inspection systems and decision making process for the introduction of LMOs have been developed in tandem with capacity building on risk analysis, detection, diagnostics and monitoring techniques and commodity audit systems.

As a party to the Cartagena Protocol on Biosafety and its Supplementary Protocol on Liability and Redress, Cameroon recognizes the great potential benefits that LMOs resulting from modern biotechnology could bring to the country in terms of promotion of human well-being, particularly in meeting critical needs for food security such as enhanced food production; agriculture in terms of increased crop yields and reduction in the use of pesticide leading to 'green' practices such as irrigation; and, health care (preventing diseases with modified vaccines); as well as promotion of technology transfer as in Art. 16 paragraph 1 of the Convention on Biological Diversity. However, given the information regarding potential risks that LMOs

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could pose to biodiversity or human health such as unintended harm to other organisms; unintended transfer of genes across organisms; allergens in foods and antibiotic resistance, Cameroon intends to control, minimize and prevent potential adverse effects of LMOs through risks assessment and risk management approaches. Prior to the Cameroon Biosecurity Project Phase I (CBP1), there existed within the Cameroon biosafety framework, a national Biosafety Law of 2003, its enabling instrument of 2007 and a risk assessment manual dating back to 2004. During the execution of the CBP1, the risk assessment manual was revised, updated and upgraded to a risk analysis manual on LMOs and IAS. This proposed Phase II of the CBP envisages a review and update of the existing Cameroon Biosafety Law and its enabling instrument; development of a regulatory instrument providing rules and procedures on liability and redress relating to LMOs under the biosafety Law, in the context of the SPLR; and development of the remaining enabling instruments to the draft Biosecurity Law.

Although, 12 capacity building sessions were carried out during the first phase of execution of the project, there is a need for a more in-depth capacity building/ strengthening at the level of the 10 regions of Cameroon to ensure greater project outreach and impact.

### **Invasive Alien Species (IAS) in Cameroon**

Cameroon is often referred to as "Africa in miniature" for its geological and cultural diversity. Natural features include beaches, deserts, mountains, rainforests and savannah. This diversity is reflected in the country's rich biodiversity. 90% of Africa's ecosystems are represented in Cameroon and the country ranks fourth in Africa in floral richness and fifth in faunal diversity. Cameroon's biodiversity is characterized by a high degree of globally significant national and regional endemic species, many of which are threatened. Invasive Alien Species (IAS)[2]2 constitute a significant threat to Cameroon's biodiversity. This is reflected in the fact that IAS management has been identified as a priority in Cameroon's NBSAP <https://www.cbd.int/doc/world/cm/cm-nbsap-v2-en.pdf>.

The country began to develop and incorporate IAS management into a comprehensive biosecurity approach under the recently completed UNEP/GEF *Cameroon Biosecurity Project* (Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)). The first phase of execution of the Cameroon Biosecurity project had as objective to strengthen national capacities in order to prevent and control the introduction, establishment and spread of invasive alien species (IAS) and the management of LMOs through the implementation of a risk-based decision making process. The project, financed by the Global Environment Facility (GEF) and the Government of Cameroon was executed through the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) under the supervision of the United Nations Environment Programme (UNEP). At the operational level of the project, the key national collaborating Ministries included: the Ministry of Agriculture and Rural Development (MINADER), the Ministry of Higher Education (MINESUP), Ministry of Scientific Research and Innovation (MINRESI), Ministry of Ministry of Livestock, Fishery and Animal Industries (MINEPIA) and Ministry of Health (MINSANTE).

Under Phase I project, stakeholder surveys yielded a list of 164 major invasive species, 85 of which were crop pests and diseases, 54 were plant invaders, 20 were animal and human diseases and 9 were aquatic invaders and vertebrates. Examples include water hyacinth (*Eichhornia crassipes*) and water lettuce (*Pistia stratiotes*) which are affecting fresh water habitat, *Chromolaena odorata* which has colonized large areas of forest and savannah, and the variegated grasshopper (*Zonocerus variegatus*) which is a generalist agricultural pest throughout Cameroon. Furthermore, a black list of 46 prohibited species (14 vertebrates and 32 plant species) and a white list of 118 species were developed.[3]3 Knowledge of IAS, their impact, and management approaches has increased considerably among responsible agencies as a result of the Cameroon Biosecurity Project. However, this knowledge is limited among the general population[4]4. Zoonotic diseases also continuously bring up new Alien and Invasive Species to Cameroon including Ebola, Swine flu, avian flu and recently Covid-19.

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## **Biosecurity**

The Cameroon Biosecurity Project pioneered a harmonized approach to building a coordinated institutional framework with capacity to detect, test and effectively manage introduced biological organisms (LMOs and IAS[5]5) that could have potential adverse effect on biodiversity. The rationale behind managing LMOs and IAS under the same framework is the cost-effectiveness of the approach and maximizing the use of both human and material resources in the area of risk assessment of the introduction of any new species which pose potential risk to both the environment and human health. The risk analysis approach, harmonizing the process from risk assessment, risk management to risk communication could optimize the use of human and material resources which are always inadequate/unavailable in Cameroon as a developing country, to support science-based decision-making regarding intentional and unintentional introductions of LMOs and IAS.

Cameroon serves as an entry point for other countries in the Central African region and, consequently experiences a high rate of movement of humans and goods and services including trading in biological products with high risks of introduction of biological material into its environment. Cameroon is rich in biodiversity and such biological introductions or invasions have led to a continuous flow of non-native biological organisms which tend to persist in the environment and become invasive. A key example is the water hyacinth menace in the Port of Douala which constitutes a serious threat to other aquatic biodiversity as it has considerably reduced the quantity of fishing catch, completely blocks several pathways into inhabited creeks and is resistant to some management strategies such as the manual harvesting by a local community for its transformation into manure. Through the efforts of the Government of Cameroon via MINEPDED in collaboration with the Watershed Task Group (WTG), the water hyacinth at the Port of Douala is slowly being managed. A potential pathway for the introduction of IAS is linked to ballast water management. Large cargo ships use ballast water to balance their weight and keep them stable during their voyages. While ballast water is essential for safe and efficient modern shipping operations, its discharge into a new environment can pose serious ecological, economic and health problems due to the multitude of marine species transported in ships' ballast water. These include bacteria, microbes, small invertebrates, eggs, cysts and larvae of various species which can become potentially invasive to the new marine environment. The flow of sea water and freshwater tend to mix up at the River Wouri/Douala estuary with some of these potential invasive species spreading into freshwater bodies around the Douala area.

Besides invasion of biological materials through trade and shipping movements, there is also the commercial release of LMOs in neighbouring countries and, with the porous borders, these released products are likely to be introduced into Cameroon. Absence of a dedicated framework with a supportive science based decision making, guided by biosecurity policy and regulatory measures implies that problems relating to unintentional and illegal introduction of biological organisms will persist. This has the potential of impacting negatively on Cameroon's well-endowed biodiversity which is part of the global sink for mankind. Cameroon's forest and biodiversity are a public and global heritage as provided for in multilateral environmental agreements such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) amongst others. If the problems of illegal and unintentional transboundary movements of biological invaders are not addressed and well managed, they will have serious negative impacts on the integrity of Cameroon's biodiversity and the ecosystem services.

### **The Biosecurity Baseline Scenario:**

#### **The Cameroon Biosecurity Project ? achievements and challenges**

The Cameroon Biosecurity Project has advanced a national harmonized approach to biosecurity through its following achievements[6]6:

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? The submission of the draft National Biosecurity Law and its enabling instruments to the Government of Cameroon for tabling before the Parliament. The draft law covers provisions for an integrated approach in the prevention, control and management of risks from the introduction of LMOs and products thereof and IAS. It makes specific provisions for the operationalization of the National Biosecurity Agency as a legally mandated coordination body, and technical departments to provide scientific advice in four sectors (food safety, biosafety, plant health and animal health).

? An analysis of the national biosecurity profile through trade and other activities through the identification of the main pathways for species introduction.

? An analysis of LMOs and invasion risks of pathogens in Cameroon.

? The publication of manuals on contingency planning and emergency response exercises, inspection systems and methods including treatments, commodity audit systems for compliance with risk assessment, invasive species control systems and procedures, revised risk analysis manual- risk assessment, risk management and risk communication.

? Conducting training of trainers, national training, and development of training manuals in: risk analysis of LMOs, detection, diagnosis and monitoring of biological invasions, inspection systems and treatments, commodity audit systems, integrated management of biological invasions, contingency planning and emergency response.

? Quantification of baseline, mid-term and end of project knowledge on biological invasions.

? Development of a national biological invasions communications and awareness-raising plan.

? Production of lists of major invasive species and national black and white lists.

? Quantification of the occurrence and abundance of priority invasive species.

? Design of a biological monitoring network.

? Quantification of the impact of priority invasive species.

? Production of an interoperable database in Cameroon for introduced species

? Purchase of equipments for some laboratories/ contribution to management of Covid-19

The above outputs represent considerable achievements. However, challenges exist for effective and sustainable improvements in the biosecurity mechanism and remains a preoccupation for Cameroon, as summarized below; and, as detailed in the section on gaps.

- A Biosecurity Law has been drafted but it is yet to be enacted.
- The complete set of accompanying enabling instruments of the Biosecurity Law are yet to be drafted.
- The necessary biosecurity-related amendments to relevant sectoral legislation are yet to be determined.
- National Training courses need to be rolled out to help build significant biosecurity capacity and awareness.
- More LMO detection laboratories need to be strengthened and certified with relevant standard operational procedures established
- Strengthening of the institutional capacities of other national laboratories in LMO detection, diagnostics and monitoring is needed.
- Knowledge products have not been translated into easy-to-use and easy to access resources.
- The Cameroon Biosecurity Strategy needs to be developed and implemented.

### ***Linkages and lessons from previous project***

The proposed Cameroon Biosecurity Project Phase II builds on the lessons learned from the execution of Cameroon Biosecurity Project Phase I. This constitutes an advantage in terms of project management and reporting. Some of the lessons learned from the previous phase include:

? The project suffered lots of delays as a result of changes in management and delays in recruitment of international consultants. Besides these delays, the development of policy and legislation, produce a myriad of guidelines and technical manuals in two languages, as well as creating national awareness of biosecurity, merging the two thematic areas of LMOs and IAS was challenging and unrealistic for the planned 4- year duration of the project. However, to mitigate the above challenges, the project put in place, streamlined measures for the recruitment of consultants; training was carried out on biosecurity issues and provisions were made for the translation of some project outputs.

? The legal and institutional framework intended to provide a sound basis for mainstreaming the project outputs into governmental operations was not in place at the end of the project. Indeed, the draft law has been developed and translated but is yet to be adopted at the national level. The time frame for its promulgation is not known. The second phase of execution will further aid the promulgation of the Law

? During the execution of the first phase project, some stakeholders including Civil Society Organisations, and the private sector were identified. These stakeholders are important in projects in which the achievement of the expected long-term impacts is highly dependent on earlier actions. Further, identifying ?champions? among the different groups of stakeholders is envisaged during the second phase of execution and will not only contribute to successful project implementation but also facilitate progress along the causal pathway towards attaining global environmental objectives in the post-project period.

? The mobilisation of the co-financing of the project became a serious challenge during the first phase of project implementation with the withdrawal of IUCN and the late release of funds from the government. With the current integration of the project into the national budgetary system, the project has benefitted from co-financing. Measures as recommended by the Terminal Evaluation have been put in place to ensure the sustainability of the co-financing mechanism during the second phase of execution.

? Even though gender was not discussed in the initial project document, gender was mainstreamed in project implementation. Women were recruited as consultants, and many women from various ministries played significant roles in project execution. Given the place of gender as a key component in project designs in international development, women were significantly represented as workshop participants. Though gender was not explicitly analysed in project design in CBP I, it was feasible to execute the project with gender consideration in mind. Henceforth, gender analysis will be a key consideration.

**Associated Baseline Projects:** There is a large number of on-going Government programmes as well as initiatives supported by development partners and the Government that directly and indirectly address biosecurity issues in Cameroon. The baseline can be divided into five parts: Activities addressing national level plant and animal biosecurity (mostly implemented by MINADER and MINEPIA); Activities addressing management of IAS for biodiversity conservation and ecosystem services implemented by various state and non-state actors; Activities regarding integrated pest management (IPM) that have implications for IAS in agriculture and in the wider landscape; Biosafety activities and Land restoration

1. **National Biosecurity:** The **National Plant Protection Organisation** under the Ministry of Agriculture and Rural Development (MINADER) is responsible for the **protection of plant life or health and the prevention or the limitation of damage from risks arising from entry, establishment or spread of plants**. Relevant activities include the implementation of **plant quarantine regulations**. There are also specific protocols such as **the strict biosecurity protocols** being implemented through MINADER and the Agricultural Research Institute for Development (IRAD) for the prevention of South American Leaf Blight ? SALB (*Microcyclus ulei*), which has decimated the rubber industry in Brazil, has not established in Cameroon. The Ministry of Livestock, Fishery and Animal Industries (MINEPIA), through its Animal Health Section is the National Competent Authority for **the importation of live animals** and the **certification of products/food of animal origin**. MINEPIA, in collaboration with FAO and WTO has been working on a project for the elaboration of national Strategic Plans for the Control of Transboundary Animal Diseases. There exist a national program for the prevention and fight against emerging and re-emerging zoonoses (also referred to as the ?National One Health Programme?) piloted at the Prime Minister?s Office regrouping key Ministries such as MINEPIA, MINFOF, MINSANTE and MINEPDED. Strengthening and incorporation of science based biosecurity measures will support national management of transboundary animal and zoonotic diseases including the current COVID 19 and future pandemics. This would provide response measures on zoonotic diseases.
2. **Biosafety Activities:** Cameroon has a Biosafety Law (No. 2003/006 of 21 April 2003) and its implementing Decree (No. 2007/0737 of 31 May 2007). These would be superseded by the Biosecurity Law which is currently in draft form. Under the Prime Ministerial Order No

2012/039/CAB/PM of 30 January 2012, a National Biosafety Committee (NBC) was established as a consultative organ under the Biosafety National Competent Authority (MINEPDED) with the mandate to give scientific opinion on all questions relating to the management of LMO-related risks. The NBC is made up of representatives of ministerial departments, state universities, and research institutions working on issues of biosafety, as well as the association of consumers' rights. Officially mandated levels of activity concerning the importation of LMOs into Cameroon are low compared to other countries, with no official LMO imports before 2012 (though there are alleged illegal introductions as seen in the gaps section). From 2012, Bayer (in partnership with Monsanto) through SODECOTON (Société de Développement de Coton du Cameroun) made some significant attempts to import living modified cotton (varieties incorporating the Bt toxin resistance to the herbicides Glyphosate and Glufosinate) for confined field trials in the northern part of Cameroon. Relevant government ministries such as MINEPDED, MINADER, and MINRESI were involved in the consideration of the request for authorization in order for Bayer to carry out the CFTs. The Competent National Authority (CNA) for biosafety the Ministry of Environment, Protection of Nature and Sustainable Development issued 02 decisions authorizing the GM cotton field trials. In 2012, MINEPDED issued authorization N° 00794/AP/MINEPDED/SG/DSCPR/SDCPB of 31 May 2012 authorizing the importation of 10kg of Genetically Modified Cotton seeds (FM989-GLT) and 10kgs of non GM cotton (FM989) for *confined field trials* in the Northern regions of Cameroon. In 2015, a second authorization N° 00988/L/MINEPDED/SG/DAG of 6 July 2015 was issued for the importation of genetically modified cotton for *open field trials* at multiple locations for a period of 3 years. Regarding decision-making in the advanced informed agreement (AIA) procedure for importation of GM cotton seeds for direct introduction into the environment in Cameroon, the authorisations for direct introduction into the environment were issued by MINEPDED (the CNA); import of seed permits were issued by MINADER which is responsible for permits for the importation of seeds into the country, while MINRESI's role was the conducting of research to generate scientific information on the GM cotton variety compared to the local variety and its socio-cultural context..

3. **IAS management for biodiversity conservation and ecosystem services:** MINFOF, the ministry responsible for wildlife and protected area management in Cameroon undertakes a number of control/restoration activities relating to biological invasions that have become established in forests while MINEPDED has led initiatives to manage water weeds. This work is supported by international NGOs such as IUCN that are actively involved in issues regarding IAS including management in protected areas such as the Lake Chad Basin and the Tri-National Sangha (TNS), and national NGOs such as Green Connexion currently working on the conservation of freshwater plants in Cameroon in the Sanaga, Nyong, Mbam, Ntem and Djikem; and, the Watershed Task Group (WTG) that are involved in managing water hyacinth (*Eichhornia crassipes*) in the Douala area in collaboration with MINEPDED. The African Marine Mammal Conservation Organisation (AMMCO) is working in collaboration with MINEPDED in managing *Salvinia molesta* in Lake Ossa in Dizangue in the Littoral region of Cameroon.[7]7
  4. **Integrated Pest Management (IPM):** in Cameroon in the case of banana, plantain, cassava and maize, has been spearheaded by MINADER in the smallholder sector through its initiative to put in place phytosanitary information on integrated crop protection in the forest zone of Cameroon through a farmer field school approach. Other organizations are working on IPM in other sectors and locations. This includes IRAD, pioneering integrated approaches to the management of *Loranthus* in rubber plantations; IPM in smallholder palm oil plantations affected by Ganoderma wilt fungus spearheaded by the Cameroon Development Corporation (CDC); integrated management of fruit flies using surveillance and area-wide control through farmers' groups in Njombe (Littoral Region) working with IRAD researchers; and, the International Institute of Tropical Agriculture (IITA) which has pioneered several successful biological control initiatives in
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Cameroon and the West and Central African regions, as well as the promotion of IPM in many crops including cassava, plantain, maize, soybean, sorghum and beans.

5. **Land Restoration:** The pioneer legislation on environment and forest management is the 1994 forestry law and its implementation decree of 1995 including the environmental legal framework of 1996. These legislations have as fundamental principle safeguarding forest cover and sustainable management. The Forest and Environment Sector Program - FESP, (1996) renders these prior policy frameworks operational and facilitates alignment of GEF focal area initiatives to local realities. The FESP is set up to coherently, in a sectoral manner, ensure participatory interventions to facilitate such actions as restoration and biodiversity conservation where appropriate; sustainable management of forest and wildlife resources in a coordinated manner, such that processes can easily attract co-funding into what is termed a 'basket fund'; or, a common pool of financial resources, irrespective of donor. According to REDD Desk report, between 1990 and 2010 Cameroon lost almost 20% (4,400 000 hectares) of forest land leading to degradation of forests and land. The National Reforestation Plans set ambitious site-specific restoration targets across the country boosted by Cameroon's Bonn Challenge and AFR100 Pledge to restore 12 .06 Million hectares of degraded landscapes by 2030. National level restoration is kicking off with the participation of 183 bodies nationwide, including 74 local councils, 36 non-governmental organizations, and business bodies. . The 2016 National Pledge to the Bonn Challenge and AFR100 contributes in promoting restoration activities in Cameroon and the CBP II envisages collaboration arrangements with initiatives in this area. With regards to the National Bamboo Management Plan (2017-2021), the government of Cameroon (GoC) via the Ministry of Forest and Wildlife (MINFOF), in its strategy of sustainable forest management, has decided to develop Non-Timber Forest Products (NTFP) including bamboo. The fact that the GoC joined the International Bamboo and Rattan Organisation (INBAR) and subsequently, on 25/ 11/ 2013, signed an MoU with INBAR aimed at developing the bamboo and rattan sector in Cameroon for poverty alleviation shows Cameroon's strong political will to develop the bamboo sector in Cameroon.

#### **Long-term Solution to environmental problems caused by LMOs and IAS**

The long-term solution is to undertake a comprehensive and inter-sectoral approach to biosecurity through the incorporation of LMO risk analysis and IAS prevention, control and management into mainstream sectoral priorities and relevant actions to improve management and conservation of forest, agricultural, coastal and marine ecosystems. This will produce global benefits in terms of conservation of globally significant biodiversity and the arrest and reversal of ecosystem degradation which are key environmental threats with global implications. The national program for the prevention and fight against emerging and re-emerging zoonoses regroups key Ministries such as MINEPIA, MINFOF, MINSANTE and MINEPDED. This program seeks to meet up with expectations in terms of prevention and fight against emerging and re-emerging zoonoses through the strengthening of epidemiological surveillance and response systems, capacity building of actors at all levels through fundamental and operational training as well as research on zoonoses while respecting the 'one health' approach. Other sector ministries intervene at various levels of the programme. This programme has been very effective in the management of the avian influenza outbreak in 2016 and the prevention of the Ebola virus on the national territory via its contingency plans and emergency response mechanisms. Some participants of this programme are also involved in the management of the Covid-19 outbreak. Reinforcing/enhancing linkages between the project and the national program for the prevention and fight against emerging and re-emerging zoonoses will foster a better national framework for biosecurity in Cameroon.

#### **Barriers:**

Although the programmes and projects described above address numerous elements necessary for effective biosecurity, the baseline for the proposed project is characterized by a number of key deficiencies and barriers to the effective integration of LMO and IAS issues into biological resource management activities across all relevant sectors. The project interventions are intended to eliminate or minimize the following barriers:

? **Fragmented policy, legislative, regulatory and institutional framework:** The Biosecurity framework in Cameroon is currently fragmented across nine major sectoral agencies (MINADER, MINEPIA, MINEPDED, MINSANTE, MINMIDT, MINRESI, MINESUP, MINFOF, and MINCOMMERCE) whose biosecurity mandates are outlined in Section 2 (Stakeholders) and in numerous pieces of legislation. Relevant legislation covers: plant health: (3 laws, 18 decrees, and 3 decisions); animal health - 5 laws, 24 decrees, 2 ordinances, 4 decisions; food safety - 1 law, 4 decrees; environmental protection - 3 laws, 8 decrees; and biosafety - 3 laws, 12 decrees.

The legal regime relating to plant protection, animal health and IAS contains the following gaps: a sectoral approach with the major emphasis on productive sectors, an absence of texts on invasive alien species; no mention of surveillance including at border posts; a lack of measures for the detection of IAS; and the absence of provisions for contingency planning, early detection and rapid response, eradication, and sustainable management of IAS. The regulatory framework relating to food safety is highly fragmented with authority being vested in MINADER, MINEPIA, MINSANTE, and MINMIDT. The regulatory framework relating to biosafety is very broad in scope covering both LMOs and their products, the target text is limited to the field of safety regulations governing modern biotechnology, an absence of a recognized and applicable methodology for risk assessment, a lack of precision on the notion of competent administration, and an absence of a system for prevention and risk analysis (risk assessment, risk management and risk communication).

This fragmentation is reflected in the institutional framework for biosecurity. MINADER has the main responsibility and capacity for the management of invasive plants and plant pests but its activities are restricted to the management of those species of agricultural significance. MINEPDED has been involved in projects to manage invasive plants with environmental impact such as water hyacinth but this approach focuses on single species management only and **does not take into account all stages of the IAS management hierarchy from prevention to restoration**. This situation is paralleled in MINEPIA where the focus is on disease and vector management for animals of direct economic value but with very little focus on the possibility of vertebrate introductions (notably fish) or microbial introductions (e.g. viruses including SARS-COV) becoming invasive. MINFOF has a mandate for IAS management in protected areas but has some challenges to execute this effectively. The fragmented food safety institutional environment is summarized under Section 2 on the role of stakeholder institutions in biosecurity. For biosafety, there is doubt about the credibility of controls (possibility of illegal importation of LMOs into the national territory). There have been unsubstantiated information of non-authorized field trials that have been conducted in Cameroon. The trial of a GM mosquito that cannot be colonized by Plasmodium (the agent of malaria) and the trial of a live GM vaccine against the "Peste des petits ruminants", for instance, have been alleged during CBP activities, even though this information has not been substantiated. It has also been alleged that scientists who travel abroad sometimes bring back LMO seeds that they cultivate on a small scale in open fields. Regardless of such alleged, possible field trials, research on the presence of LMO-derived elements in processed foods in the northern part of Cameroon has revealed the presence of two LMO cotton strains and five LMO maize strains among seeds collected in the field from farmer's reserves, researchers and local seed companies. The detected GM cotton strains were said to be the same as those that have since then been authorized in the SODECOTON confined field trial. Five GM maize strains were identified out of a total of ten varieties, which tends to indicate that the issue of unauthorized GMO importations is significant.

? **Insufficient capacity to integrate biosecurity issues into (multiple) key sectors:** There is limited capacity in areas such as traditional and molecular diagnostics/identification, risk analysis, inspection methods and integrated approaches to the management of biological invasions in Cameroon for the implementation of an integrated cross-sectoral risk-based approach to biosecurity. A similar skill set is required to assess the risk and environmental impact posed by LMOs and other introduced species. However, a useful start in the building of systematic biosecurity capacity was made during the CBP1 under which six training of trainer's workshops and six national training workshops were conducted resulting in the development of six training manuals and six (6) customized course notes. The training manuals, <https://dpml.cm/index.php/en/> together with trained trainers constitute essential resources that can be used to roll out training to wider constituents. The limited training has not been transformative. It is envisaged that an enabling legislative regime- policy, regulatory and institutional framework and effective knowledge

management would create the necessary environment for the required transformation. Capital equipment and supplies for LMO detection are also required especially for laboratories found in the northern regions of Cameroon to increase national coverage. During the first phase of project execution, laboratory equipment was procured and made available to the laboratories of the Biotechnology Centre of the University of Yaounde I and the Biotechnology Unit of the University of Buea as institutional support for LMO detection, diagnostics and monitoring. Among the equipment procured, is a Real-Time PCR which has been very essential in carrying out testing of Covid-19 in the Biotechnology Centre of the University of Yaounde I. Furthermore, Cameroon procured a Real-Time PCR to support the Biotechnology Unit of the University of Buea as well as some accessories for both laboratories for the year 2021. The Covid-19 outbreak in Cameroon revealed the need to boost the institutional capacity of more laboratories to carry out mass testing as well as other biosecurity tasks.

? **Inadequate implementation of cost-effective risk-based biosecurity measures:** IAS management has rarely taken an integrated approach in which IAS considerations are embedded into the management of other anthropogenic pressures, such as land degradation, fragmentation and pollution that render a system vulnerable to IAS and compound their impact. The continued growth of trade and transport-related movements has increased IAS risks for Cameroon and the risks posed by Cameroon as an IAS source for other countries. Successful management initiatives have been undertaken in agriculture (e.g. biological control for the cassava mealy bug and the building of smallholder capacity through farmer field schools), and in health (e.g. **the One Health Programme which is taking a multi-sectoral, multidisciplinary, synergistic and holistic approach to the management of health-related issues in Cameroon**). However, good practice has not been systematically transferred to other sectors (e.g. introduction of risk-based biological control as adopted in the agricultural sector has not been utilized for biodiversity conservation. This inconsistent application of good practice has serious implications for management effectiveness of all landscapes including protected areas. In the absence of mainstreaming biosecurity concerns in all sectoral areas in Cameroon, the country runs the risk of addressing one environmental concern at the expense of another.

? **Insufficient knowledge, awareness and access to useful, timely and detailed information of relevance to biosecurity:** Most people in Cameroon are aware of specific issues that relate to biosecurity, generally related to outbreaks of human and animal disease, zoonotic diseases and agricultural pests. However, awareness about IAS and biosafety as a generic issue with environmental, social and economic impacts is limited. Most people in Cameroon would probably not be familiar with the term 'invasive alien species' or 'living modified organism'. Without basic levels of awareness about the causes and consequences of biological invasions, and the nature of LMOs, it is unlikely that the general public will provide the consistent support and collaboration that an effective biosecurity framework requires. Although the information baseline about LMOs and IAS is insufficient, a great deal of relevant information has been collected and assembled during the Cameroon Biosecurity Project. For example, critical invasive species pathways have been identified, the biosafety baseline situation has been evaluated, black and white lists of invasive species have been produced and generic LMOs and IAS contingency plans for incursions have been drawn up. However, critical information is still lacking. It is essential that invasion risks of live imports and potential IAS vectors are assessed in a timely manner. This requires rapid access to relevant and credible information. Environmental Impact Assessments (EIAs) do not systematically incorporate assessments of IAS risk in their processes, partly due to inadequate information on native and non-native alternatives to recommended (potentially invasive) **plants to be used for purposes such as landscaping, agroforestry and erosion control. Invasive species distributions in Cameroon have not been systematically assessed nor has the vulnerability of different climatic zones to different biological invaders; knowledge which is becoming increasingly important in the light of climate change.** (coupled with the era for open trade and free movement in view within CEMAC sub region). In the realm of biosafety, information has been gathered, mainly from commercial interests proposing LMO introductions, to inform an environmental risk analysis but no work has so far been initiated to assess the potential socio-economic impacts of LMO introductions. The infrastructure for knowledge management system has been developed under the Cameroon Biosecurity Project to a limited extent but there is not yet an easy to access one-stop shop through which to obtain relevant information.

During the CBP I, a series of shortcomings were identified which ultimately resulted in the gaps and barriers noted above. Amongst others included; the slow start of the project as a result of the low capacities of stakeholders on the novel concept of biosecurity, the withdrawal of IUCN as one of the co-funding partners, the security threats in Northern Cameroon by 'Boko Haram' and delays related to consultancy assignments. These shortcomings ultimately had an adverse impact on the smooth execution of the project including planned pilot site activities in the North ? hence the request for a project extension during the CBP I.

The terminal evaluation of the first phase of Cameroon biosecurity project revealed a limited but progressive increase in awareness and knowledge management levels concerning LMOs and IAS in Cameroon. The target groups for these evaluations comprised of major project stakeholders; project personnel, Project Advisory Committee, Project Technical Adviser, component taskforces, members of the national biosafety committee and resource persons. There were positive trends for biological invasions management practices to which the CBP I has substantially contributed. There has also been an increased implementation of officially mandated biosecurity measures and improved management strategies that were influenced by CBP I outputs. Behaviour change concerning LMOs revealed an increased acceptance of LMOs as being potentially useful if introduced under a science-based regulatory regime. As recommendation, a thorough orientation of key stakeholders on LMO through training is recommended; with the modules covering biosafety, risks and benefits of modern biotechnology, risk analysis of LMOs, and public awareness, consultation and participation. Furthermore, it is strongly recommended that a survey of this kind is undertaken at the beginning of any follow-up project to ensure that the project implementation team is aware of prevailing knowledge, attitude and practice (KAP) levels among the key stakeholders as a prelude to capacity building work to ensure a sound foundation for future efforts.[8]8 Under the CBP I, a national biosecurity communication strategy[9]9 was produced but this has yet to be implemented on a large scale. Hence, there is need for further support to carry out more awareness-raising activities within the Cameroon Biosecurity project in order to create a wider outreach and more impact.

Given the background information leading up to the barriers in the preceding paragraphs, the need for change has become imperative. To effectively design a comprehensive theory of change for CBP II that covers all the pathways of achievements linking CBP I to CBP II, the barriers above were critically analysed and specific gaps were identified and used to develop a theory of change in Figure 2 (below) with a basic narrative in both text/listing and tabulated forms, under the proposed alternative scenario and harmoniously marching up with the three components of the Cameroon Biosecurity Project Phase II as follows:

**Component 1** Effective biosecurity policy, legislative, regulatory and institutional frameworks

**Component 2.** Incorporation of biosecurity measures into pathways for monitoring and management of biological introductions

**Component 3.** Biosecurity capacity integrated in regulatory, institutional and national education systems.

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? The Proposed Alternative Scenario:

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The project is designed to support the enactmentment of the National Biosecurity Law and its purpose to *lay down a biosecurity integrated approach in the prevention, control and management of risks from the introduction of living modified organisms and products thereof; and, invasive alien species.* It will support the production of a National Biosecurity Strategy (NBS) and the operationalization of a National Biosecurity Agency to coordinate the implementation of the NBS. The project will strengthen the capacity of key institutions to effectively implement the provisions of the Cartagena Protocol on Biosafety and its Supplementary Protocol on Liability and Redress and prevent, control and manage IAS; integrate critical

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partners into IAS prevention and control mechanisms and biosafety; improve information resources on biosecurity; and put in place priority setting and decision-making tools for more effective prevention, control and management of IAS and regulation of living modified organisms. **At selected sites**, the project will prevent the entry and spread of IAS through the development and implementation of prevention, early detection and rapid response measures, in order to prevent IAS problems at source and thus avoid costly control and eradication efforts. It will promote the more effective management of IAS threats and support ecosystem restoration in selected protected areas to sustain populations of threatened species. The project will work with local residents and producers to reduce the potential impacts of IAS stemming from productive activities within and around conservation areas. It will also support measures to address IAS in sites where existing IAS are having a severe impact on biodiversity and/or ecosystem functions, and where control and eradication measures can be cost-effectively implemented with a high likelihood of success. Project outputs will be geared at boosting the government's efforts in the effective management and control of IAS. The project outputs will add value to the activities carried out by the national program for the prevention and fight against emerging and re-emerging zoonoses (also referred to as the "National One Health Programme") piloted at the Prime Minister's Office. In 2016, the generic contingency planning and emergency response manual developed under the UNEP-GEF Cameroon Biosecurity Project (CBP) Component 2 was used as a base document for the development of the national contingency plan for the avian influenza under the One Health Programme and proved to be very effective in the management of the avian influenza outbreak in Cameroon in 2016. Similar linkages can be proposed between the project and any existing national biosecurity initiatives to ensure a well-coordinated national biosecurity framework.

Specifically, under **Component 1**, the project will put in place a comprehensive policy, regulatory and institutional framework for effective regulation of living modified organisms and prevention, control and management of invasive alien species. Based upon a review of the strengths, weaknesses, opportunities and threats to biosecurity in Cameroon undertaken in the CBP I, the National Biosecurity Law was drafted and forwarded to the Government. From this point onwards, the project is accompanying the administrative process by providing support for the effective tabling of this draft Law before Parliament. The drafted National Biosecurity Law will be supported by enabling instruments that will operationalize the National Biosecurity Agency established in the draft law to be funded from sustainable sources of finance to provide overall national coordination on biosecurity and the development of a National Biosecurity Strategy to ensure that biosecurity implementation in Cameroon takes into account the current national policy and institutional framework, regional initiatives and global biosecurity practices on LMO and IAS prevention and management. The strategy will be accompanied with a budgeted Biosecurity Action Plan with specific and costed activities, timelines, and roles and responsibilities will be developed to support implementation. The 2003 National Biosafety Law will be reviewed, updated & enhanced to reflect current global evolutions and developments in the implementation of the Cartagena Protocol on Biosafety including COP-MOP Decisions; and, bringing on board the implementation of the Supplementary Protocol on Liability and Redress (SPLR) at the national level. Hence, a review and assessment of the status of Cameroon's domestic law on Civil Liability in order to develop a regulatory instrument (Decree) under the national Biosafety Law, compatible with national Civil Liability Law, specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs, in the context of the Supplementary Protocol on Liability and Redress (SPLR). The National Biosecurity Agency established in the draft Biosecurity Law is designed to provide under the supervision of MINEPDED, the overall national coordination on biosecurity once operationalized upon the adoption of the Biosecurity Law as a cross-sectoral policy coordination framework to ensure the incorporation of biosecurity issues into the legal and policy framework of all relevant agencies at the national and sub-national levels. The National Biosecurity Agency will be supported by a Biosecurity Technical Secretariat comprising a small number of full-time staff/technical experts on a comprehensive range of LMOs and IAS, pathways, vectors and management approaches. At the policy and strategic level, the project will ensure that biosecurity considerations are mainstreamed into the National Development Strategy and relevant legislations, including those applying to: plant health, such as the law applying to phytosanitary protection (law 2003/003 of 21 April 2003), animal health, such as the law applying to the regulation of zoo-sanitary inspection (law 2000/017 of 19 December 2000); the protection of wildlife, such as the law applying to the forest, wildlife and fishing regime (law 94/01 of 20 January 1994); food safety, such as the regulation applying to the creation, organization and functioning of the National Codex Alimentarius Committee (Regulation 26/CAB/PM of 14 February 2008); and environmental protection, such as the framework law applying to environmental management (law 96/12 of 05 August 1996). In addition, formal

or informal partnerships will be facilitated to assist in risk-based LMO and IAS management across all landscapes.

Under **Component 2**, the project will implement a set of activities focused on pathways management and integrated management of a range of key landscapes which will incorporate biosecurity considerations to ensure that objectives are met without unintended consequences in terms of LMO and IAS impacts. Pre-border, border and post-border prevention, early detection and rapid response along prioritised pathways into and within the country will be reinforced by an approach based upon species and pathways risk assessment. Pilot LMO and IAS detection, diagnostic and monitoring activities will be carried out. Based on activities undertaken during the CBP II, priority pilot cost recovery activities will be implemented to ensure the financial sustainability of the National Biosecurity Agency, Technical Secretariat and biosecurity operations. Focus will be on building the capacity of border/frontier management staff incorporating biosecurity operations in review and assessment of new biological introductions into the country. This component will also **ensure that biosecurity procedures are respected during the restoration of degraded lands using local plant species and tree products** (*Bambusa spp, Irvingia spp*). The sites chosen for the restoration of degraded land will also be considered as pilot sites for testing biosecurity manuals and front end guidance developed during the first phase of project execution. The activity on land restoration will be carried out in collaboration with the **GEF Tri Child Project** and will ensure synergy and effectiveness in Government action in the restoration of degraded landscapes.

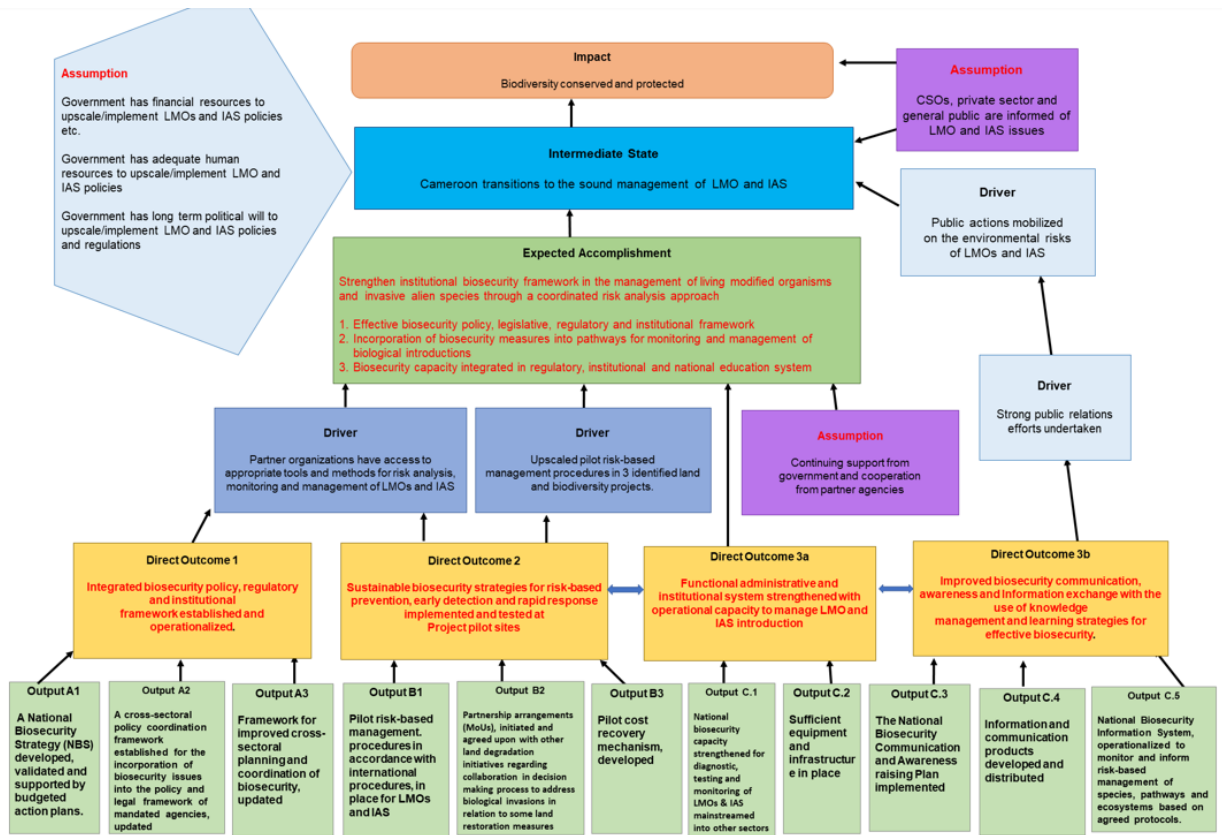
The project will, aid/assist in building the capacity of the various agencies and technical staff mandated to deal with different aspects of LMO and IAS prevention, control and management. Priority training requirements will be determined through a biosecurity assets inventory and capacity needs assessment process. The specialized training will be built on the substantial baseline provided by the diverse biosecurity training implemented under the Cameroon Biosecurity Project. The assets and needs assessment process will also help prioritise equipment and supply needs for effective LMO and IAS detection, diagnosis and monitoring activities.

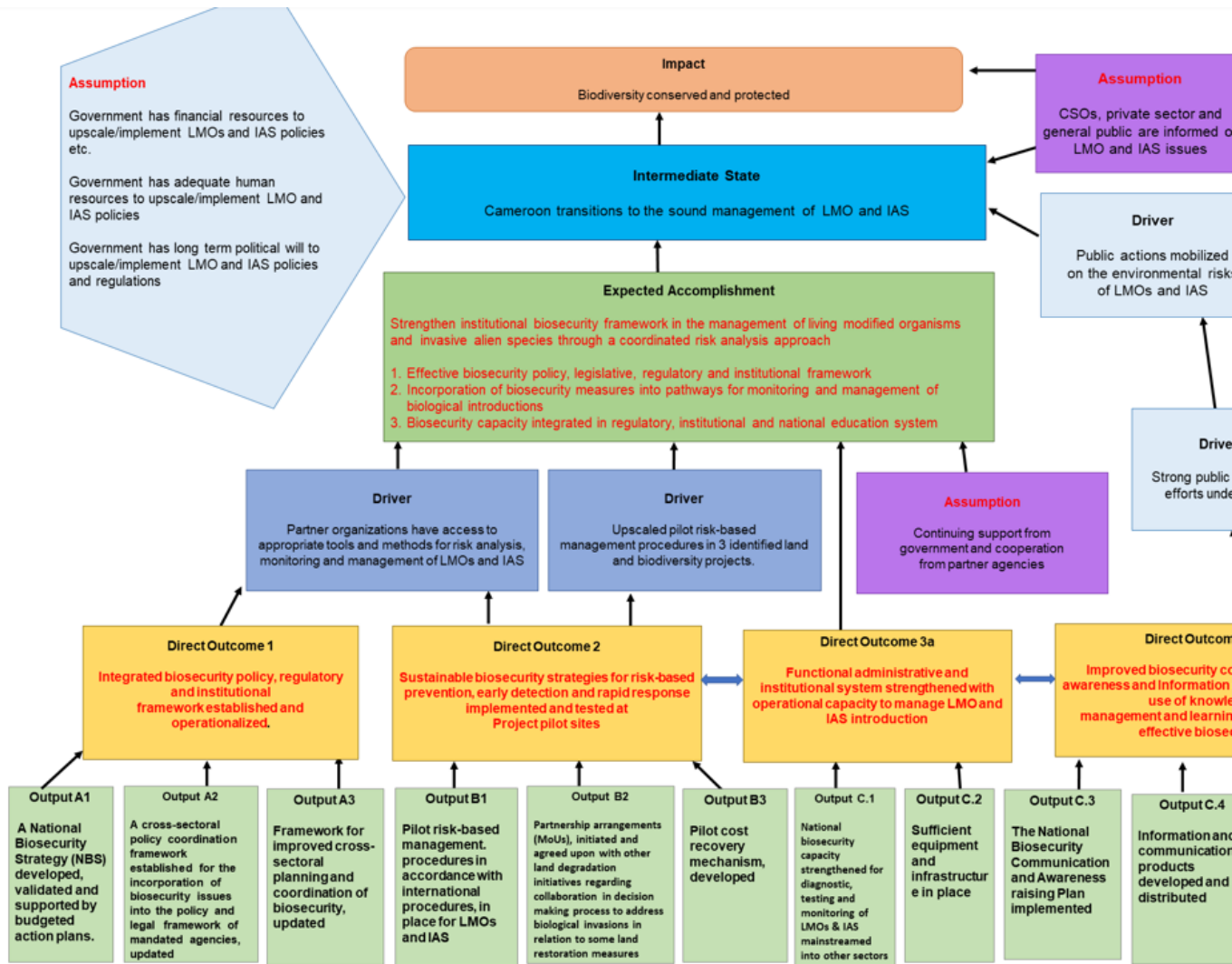
### **Component 3**

The project will undertake activities that will provide timely access to information required for decision-making, ensure that information is kept up to date and provides inputs for evidence-based adaptive management based on agreed protocols, raise awareness on biosecurity as a cross-sectoral issue to build support for IAS-related work, and encourage participation in IAS-related activities. The project will spearhead the implementation of the National Biosecurity Communication Strategy to increase awareness of biological invasions among key stakeholder groups and the general public as an essential contribution to a more effective biosecurity approach for the country. The Communication Strategy incorporates an international element, the objective of which is to promote replication of project outputs in neighbouring countries, in the West and Central African sub-regions and in the African Region. IAS tools and manuals developed under the CPB will be further refined to meet the needs of individual agencies for use in day to day biosecurity operations. Finally, biosecurity will be integrated into school and tertiary education curricula, thus mainstreaming biosecurity concept into the Cameroonian educational system.

? Theory of Change (ToC):

**a). Figure 2: Cameroon Biosecurity Project Phase II (CBP II) Theory of Change**





b). Narrative: Cameroon Biosecurity Project Phase II (CBP II) Theory of Change

Considerable efforts have been made during the execution of previous projects in Cameroon aimed at addressing biodiversity loss due to land use and a variety of related issues. During the implementation of the Cameroon biosecurity project on the 'Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)' from 2011 to 2018, giant steps were taken towards specifically, addressing biodiversity conservation and protection problems that are related to the introduction of LMOs and IAS. Though significant and measurable achievements were made during its implementation, the Cameroon Biosecurity Project Phase I (CBP I) encountered some challenges that left gaps and barriers in achieving the objectives of the project.

The Cameroon Biosecurity Project Phase II aims at addressing those gaps and barriers regarding effective biodiversity conservation and protection against threats of LMOs and IAS. Some of the gaps include the use of tools as relates land degradation and stakeholder analysis with particular attention to gender considerations.

In its goal towards biodiversity conservation and protection, Cameroon aims at using the same platform to control Invasive Aliens Species and issues relating to biosafety. Cameroon Biosecurity Project II is formulated to address the identified problems/gaps relating to LMOs and IAS with the objective to strengthen institutional biosecurity frameworks in the management living modified organisms and invasive alien species through a coordinated risk analysis arrangements.

The objective of the Cameroon Biosecurity Project Phase II is to strengthen institutional biosecurity frameworks in the management living modified organisms and invasive alien species through a coordinated risk analysis approach. The project has been designed to attain its objective with the following expected accomplishments:

1. Effective biosecurity policy, legislative, regulatory and institutional framework
2. Incorporation of biosecurity measures into pathways for monitoring and management of biological introductions
3. Biosecurity capacity integrated in regulatory, institutional and national education system.

Focusing on the role of the Cameroon Government in achieving this objective, the activities have been carefully selected, based on the presumptions that: (i) the Government has financial resources to upscale/implement LMOs and IAS policies, (ii) adequate human resources to upscale/implement LMO and IAS policies, (iii) long term political will to upscale/implement LMO and IAS policies and regulations; (iv) that civil society organizations (CSOs), the private sector and the general public are informed of LMOs and IAS issues; (v) and, continuing support from government and cooperation from partner agencies. Considerable thought has also been given to drivers of change, recognizing that other stakeholders such as partner organizations that are essential though complementary, have access to appropriate tools and methods for risk analysis, monitoring and management LMOs and IAS, upscaled pilot risk-based management procedures in 3 identified land and biodiversity projects; and, public actions mobilized on the environment risks and strong public relations efforts undertaken of LMOs and IAS.

Thus, in Figure 2 a conserved and protected biodiversity for Cameroon through the sound management of LMOs and IAS is expected to be the ultimate goal/impact of the accomplishments that will spring from the direct outcomes resulting from outputs and activities of the CBP II, as outlined here below, in both text/listing and tabulated forms.

#### GOAL/Impact

Conservation and protection of biodiversity and ecosystem services for Cameroon through sound management of LMOs and IAS

#### PROJECT OBJECTIVE

To strengthen institutional biosecurity frameworks in the management of living modified organisms and invasive alien species through a coordinated risk analysis measure

#### EXPECTED OUTCOMES

1. Integrated biosecurity policy, regulatory and institutional framework established and operationalized.
2. Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response tested and implemented at Project pilot sites.
3. a. Functional administrative and institutional system strengthened with operational capacity to manage LMO and IAS introduction.  
b. Improved biosecurity communication, awareness and information exchange with the use of knowledge management and learning strategies for effective biosecurity.

#### OUTCOMES, OUTPUTS & ACTIVITIES

DIRECT OUTCOME 1. Integrated Biosecurity policy, regulatory and institutional framework established and operationalized.

Output A.1. National Biosecurity Strategy (NBS) developed, validated and supported by budgeted action plans

Activity A.1.1. Develop a National Biosecurity Strategy (NBS) through a consultative process with key stakeholders

The biosecurity status will be reviewed, updated, and consultations carried out among stakeholders in the process of adoption of the National Biosecurity Strategy

The development of a National Biosecurity Strategy is intended to ensure that biosecurity implementation in Cameroon takes into account the current national policy and institutional framework, regional initiatives and global biosecurity practices on the prevention, control and management of LMOs and IAS. The strategy will be accompanied with a budgeted Biosecurity Action Plan with specific and costed activities, timelines; setting roles and responsibilities in order to support the implementation of the Action Plan.

At this strategic level, the project will ensure that biosecurity considerations are mainstreamed into the National Development Strategy and relevant legislations, including those applying to: plant health, animal health; the protection of wildlife; food safety; environmental protection and integrate the biosecurity issues in the National Gender Policy of Cameroon. Additionally, formal or informal partnerships will be facilitated to assist in risk-based management of LMOs and IAS across all landscapes

Output A.2. A cross-sectoral policy coordination framework established for the incorporation of biosecurity issues into the policy and legal framework of mandated agencies, updated

Activity A.2.1. Review and update the 2003 National Biosafety Law and its enabling instrument to reflect current global evolutions, innovations and developments in the implementation of the Cartagena Protocol on Biosafety, COP-MOP Decisions; and, the Supplementary Protocol on Liability and Redress (SPLR) with a special instrument specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs.

The special instrument specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs in the context of the SPLR shall be compatible with national Civil Liability Law, and, shall constitute a major part of the add-ons to the National Biosafety Law being amended

The Cameroon Biosafety law was enacted in April 2003, barely three years after the adoption of the Cartagena Protocol on Biosafety (2000), as an instrument of implementation of the protocol at national level. At the time of drafting, knowledge about LMOs or biosafety issues was limited as there was no sufficient exposure to LMOs and biosafety issues as is the case today. Consequently, the law had some shortcomings.

Twenty years down the line, it has become imperative to review, update & enhance the Cameroon Biosafety Law to reflect current global evolutions, innovations and developments in the implementation of the Cartagena Protocol on Biosafety including COP-MOP decisions; thus, bringing on board the implementation of the 2010 Supplementary Protocol on Liability and Redress (SPLR) through a special instrument at the national level.

There is also a need to ensure that the Biosafety Law is compatible with, and complements harmoniously the would-be Biosecurity Law. The drafting process will be guided by terms of reference drawn from stakeholder consultations and a review of the strengths, weaknesses, opportunities and threats to Cameroon's biosecurity and biosafety status

Output A.3. Framework for improved cross-sectoral planning and coordination of biosecurity promotion, updated

Activity A.3.1. Reinforce lobbying mechanisms via meetings targeting key decision makers (government officials and parliamentarians) on the need to expedite the process of adoption of the draft Biosecurity Law and the sustainable operationalization of the National Biosecurity Agency

Activity A.3.2. Lobby for the implementation of the draft Order on the creation, organization and Functioning of an Ad hoc National Biosecurity Committee developed within the first phase of execution of the project

The National Biosecurity Agency (NBA) in A.3.1 above, is provided for in Part II sections 5 and 6 of the draft Biosecurity Law developed during the CBP I, to be a biosecurity co-ordination body with legal personality and financial autonomy. The mission of the NBA is determined and laid down by the draft Decree of Implementation of the would-be Biosecurity Law, but the decree can only be signed after the enactment of the law establishing it. Yet, the draft Biosecurity Law is still undergoing procedural scrutiny in the process of adoption. This means that the NBA could not be operationalized before the draft law is enacted because it is the legal force of the law that will render the operationalization of the NBA possible.

The NBA is designed to provide under the supervision of MINEPDED, the overall national coordination on biosecurity once operationalized upon the adoption of the Biosecurity Law as a cross-sectoral policy

coordination framework to ensure the incorporation of biosecurity issues into the legal and policy framework of all relevant agencies at the national level.

The CBP I proposed the draft Order on the Creation, Organization and Functioning of an Ad hoc National Biosecurity Committee in A.3.2 above, as a transitional measure, pending the Biosecurity Law and the effective implementation of the NBA, for the coordination and management of issues relating to biosecurity in Cameroon.

To achieve the expected Output A3, the activities in A.3.1 and A.3.2 above will involve:

? organization of awareness-raising workshops & meetings targeting concerned government officials in the executive hierarchy to trigger further action and operationalize sustainably and progressively, the NBA;

? reinforce lobbying tactics to raise awareness of parliamentarians on the importance of biosecurity measures in order to expedite the process of adoption of the due Biosecurity Law; and,

? prior to, and, at inception of CBP II, lobby for and follow up the implementation of the draft Order on the Creation, Organization and Functioning of an Ad hoc National Biosecurity Committee developed in CBP I as a transitional biosecurity measure pending adoption of the draft Biosecurity Law.

**DIRECT OUTCOME 2: Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response tested and implemented at Project pilot sites**

Output B.1. Pilot risk-based management procedures in accordance with international procedures, in place for LMO and IAS.

Activity B.1.1. National biosecurity tools tested at pilot site level with regards to risk-based management strategies, contingency planning process and emergency response measures

Activity B.1.2 Systematically assess the invasive species distributions in Cameroon and the vulnerability of different climatic zones to different biological invaders in the light of climate change

An assessment of the potential socio-economic impacts of LMO introductions is imperative to inform an environmental risk analysis in executing the activities under Outputs B1.

Output B.2. Partnership arrangements (MoUs), initiated and agreed upon with other land degradation initiatives regarding collaboration in decision making process to address biological invasions in relation to some land restoration measures

Activity B.2.1. Incorporate biosecurity measures in the restoration of degraded lands using local plant species and tree products (Bambusa spp, Irvingia spp.).

Environmental Impact Assessments (EIAs) do not systematically incorporate assessments of IAS risk in its processes. It would be necessary to take this into consideration while implementing Activity B.2.1.

Output B.3 Pilot cost recovery mechanism developed

Activity B.3.1. Develop a pilot cost recovery mechanism based on the tools and resources used

Cost recovery options for LMO and IAS management will be investigated in all sectors so that economic sustainability is addressed across all aspects of the project thus internalising externalities and providing finance for LMO and IAS management operations.

**DIRECT OUTCOME 3a. Functional Administrative and Institutional system strengthened with operational capacity to manage LMO and IAS introduction**

Output C.1. National biosecurity capacity strengthened for diagnostic, testing and monitoring of LMOs and IAS and, mainstreamed into other sectors

Activity C.1.1. National training on LMO detection, diagnostics and monitoring, carried out.

This activity is intended to strengthen the institutional capacity of national laboratories in LMO detection, diagnostics and monitoring. The target participants to benefit from this training will be laboratory technicians in the stakeholder institutions which have received laboratory equipment as support from the Cameroon Biosecurity Project Phase II.

There is a need for capacity in areas such as traditional and molecular diagnostics/identification, risk analysis, inspection methods and integrated approaches to the management of biological invasions in Cameroon for the implementation of an integrated cross-sectoral risk-based approach to biosecurity.

Training manuals as well as trained trainers of CBP1 constitute essential resources that could be taped to roll out training to wider constituents

Activity C.1.2. Prepare strategies for mainstreaming biosecurity capacity into regulatory, institutional and education systems

Execution of this activity will involve the preparation of training modules covering biosafety, risks and benefits of modern biotechnology, risk analysis of LMOs, and public awareness, consultation and participation.

Output C.2. Sufficient equipment and infrastructure in place

Activity C.2.1 Procure modern equipment and infrastructure for testing and detection of LMOs and IASs at biosecurity posts including ports of entry, by relevant Control & Inspection Services of the Competent National Authority (MINEPDED) and other relevant administrative departments

Activity C.2.2. Procurement of laboratory equipment for detection of LMOs accompanied by training of the staff (laboratory technicians) on the use of the equipment

Capital equipment and supplies for LMO detection are also required especially for laboratories found in the northern regions of Cameroon to increase national coverage.

DIRECT OUTCOME 3b. Improved Biosecurity Communication, Awareness and Information exchange with the use of knowledge management and learning strategies for effective biosecurity.

Output C.3. The National Biosecurity Communication and Awareness raising Plan implemented

Activity C.3.1. Update and implement the National Biosecurity Communication and Awareness-raising Plan

Different communication strategies for different stakeholder categories were identified in CBP1 and the implementation phase was initiated. In CBP II, the initiated implementation phase of the National Biosecurity Communications and Awareness-raising Plan will be reviewed, updated, elaborated and finalized

Output C.4. Information and communication products developed and distributed

Activity C.4.1. Develop and disseminate biosecurity information and communication tools

Critical information about LMOs and IAS is still lacking. It is essential that invasion risks of live imports and potential IAS vectors are assessed in a timely manner. This requires quick/rapid access to relevant and credible information. Consequently, the development and dissemination of biosecurity information and communication tools need to be sustainable.

Output C. 5. National Biosecurity Information System (NBIS), including a participatory monitoring network using citizen science and modern ICT is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols.

Activity C.5.1. Develop a Biosecurity Information System including a participatory monitoring network, using citizen science and modern ICT, in consultation with stakeholders to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols

Implementation of this activity will involve reviewing, updating and preparing strategies for an effective national biosecurity information exchange system; establishing synergy among information hubs such as the International Phytosanitary Portal, the CHM, and national BCH and ABSCH. This will include a participatory monitoring network using citizen science and modern ICT; and operationalizing the National Biosecurity Information System to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols. The essence is to ensure an effective easy to access one-stop shop through which to obtain relevant information.

**Cameroon Biosecurity Project MSP (CBP II) Theory of Change (Narrative in Table)**

Expected Outcomes, Outputs and Activities		
Outcomes	Outputs	Activities



<p><b>Direct Outcome 1:</b> <i>Integrated Biosecurity policy, regulatory framework established and operationalized.</i></p>	<p><b>Output A.1.</b> National Biosecurity Strategy (NBS) developed, validated and supported by budgeted action plans</p>	<p><b>Activity A.1.1.</b> Develop a National Biosecurity Strategy (NBS) through a consultative process with key stakeholders</p> <p><i>The biosecurity status will be reviewed, updated, and consultations carried out among stakeholders in the process of adoption of the National Biosecurity Strategy</i></p> <p><i>The development of a National Biosecurity Strategy is intended to ensure that biosecurity implementation in Cameroon takes into account the current national policy and institutional framework, regional initiatives and global biosecurity practices on the prevention, control and management of LMOs and IAS. The strategy will be accompanied with a budgeted Biosecurity Action Plan with specific and costed activities, timelines; setting roles and responsibilities in order to support the implementation of the Action Plan.</i></p> <p><i>At this strategic level, the project will ensure that biosecurity considerations are mainstreamed into the National Development Strategy and relevant legislations, including those applying to: plant health, animal health; the protection of wildlife; food safety; environmental protection and integrate the biosecurity issues in the National Gender Policy of Cameroon. Additionally, formal or informal partnerships will be facilitated to assist in risk-based management of LMOs and IAS across all landscapes</i></p>
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**Output A.2**

A cross-sectoral policy coordination framework established for the incorporation of biosecurity issues into the policy and legal framework of mandated agencies, updated

**Activity A.2.1.** Review and update the 2003 National Biosafety Law and its enabling instrument to reflect current global evolutions, innovations and developments in the implementation of the Cartagena Protocol on Biosafety, COP-MOP Decisions; and, the Supplementary Protocol on Liability and Redress (SPLR) with a special instrument specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs.

*The special instrument specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs in the context of the SPLR shall be compatible with national Civil Liability Law, and, shall constitute a major part of the add-ons to the National Biosafety Law being amended*

*The Cameroon Biosafety law was enacted in April 2003, barely three years after the adoption of the Cartagena Protocol on Biosafety (2000), as an instrument of implementation of the protocol at national level. At the time of drafting, knowledge about LMOs or biosafety issues was limited as there was no sufficient exposure to LMOs and biosafety issues as is the case today. Consequently, the law had some shortcomings.*

*Twenty years down the line, it has become imperative to review, update & enhance the Cameroon Biosafety Law to reflect current global evolutions, innovations and developments in the implementation of the Cartagena Protocol on Biosafety including COP-MOP decisions; thus, bringing on board the implementation of the 2010 Supplementary Protocol on Liability and Redress (SPLR) through a special instrument at the national level.*

*There is also a need to ensure that the Biosafety Law is compatible with, and complements harmoniously the would-be Biosecurity Law. The drafting process will be guided by terms of reference drawn from stakeholder consultations and a review of the strengths, weaknesses, opportunities and threats to Cameroon's biosecurity and biosafety status. The activity will start off with the review and updating of the 2003 National Biosafety Law followed by the review of its enabling instruments.*

**Output A.3**

Framework for improved cross-sectoral planning and coordination of biosecurity promotion, updated

**Activity A.3.1.** Reinforce lobbying mechanisms via meetings targeting key decision makers (government officials and parliamentarians) on the need to expedite the process of adoption of the draft Biosecurity Law and the sustainable operationalization of the National Biosecurity Agency

**Activity A.3.2.** Lobby for the implementation of the draft Order on the creation, organization and Functioning of an Ad hoc National Biosecurity Committee developed within the first phase of execution of the project

*The National Biosecurity Agency (NBA) in A.3.1 above, is provided for in Part II sections 5 and 6 of the draft Biosecurity Law developed during the CBP I, to be a biosecurity co-ordination body with legal personality and financial autonomy. The mission of the NBA is determined and laid down by the draft Decree of Implementation of the would-be Biosecurity Law, but the decree can only be signed after the enactment of the law establishing it. Yet, the draft Biosecurity Law is still undergoing procedural scrutiny in the process of adoption. This means that the NBA could not be operationalized before the draft law is enacted because it is the legal force of the law that will render the operationalization of the NBA possible.*

*The NBA is designed to provide under the supervision of MINEPDED, the overall national coordination on biosecurity once operationalized upon the adoption of the Biosecurity Law as a cross-sectoral policy coordination framework to ensure the incorporation of biosecurity issues into the legal and policy framework of all relevant agencies at the national level.*

*The CBP I proposed the draft Order on the Creation, Organization and Functioning of an Ad hoc National Biosecurity Committee in A.3.2 above, as a transitional measure, pending the Biosecurity Law and the effective implementation of the NBA, for the coordination and management of issues relating to biosecurity in Cameroon.*

*To achieve the expected Output A3, the activities in A.3.1 and A.3..2 above will involve:*

- *organization of awareness-raising workshops & meetings targeting concerned government officials in the executive hierarchy to trigger further action and operationalize sustainably and progressively, the NBA;*
- *reinforce lobbying tactics to raise awareness of parliamentarians on the importance of biosecurity measures in order to expedite the process of adoption of the due Biosecurity Law; and,*
- *prior to, and, at inception of CBP II, lobby for and follow up the implementation of the draft Order on the Creation, Organization and Functioning of an Ad hoc National Biosecurity Committee developed in CBP I as a transitional biosecurity measure pending adoption of the draft Biosecurity Law.*

<p><b>Direct Outcome 2</b>  <b>Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response tested and implemented at Project pilot sites</b></p>	<p><b>Output B1. Project Inception workshop carried out</b></p>	<p><b>B.1.1. Organise project inception workshop</b></p>
	<p><b>Output B.2.</b>  Pilot risk-based management procedures in accordance with international procedures, in place for LMO and IAS.</p>	<p><b>Activity B.2.1.</b> National biosecurity tools tested at pilot site level with regards to risk-based management strategies, contingency planning process and emergency response measures</p> <p><b>Activity B.2.2</b> Systematically assess the invasive species distributions in Cameroon and the vulnerability of different climatic zones to different biological invaders in the light of climate change</p> <p><i>An assessment of the potential socio-economic impacts of LMO introductions is imperative to inform an environmental risk analysis in executing the activities under Outputs B1.</i></p>
	<p><b>Output B.3.</b>  Partnership arrangements (MoUs), initiated and agreed upon with other land degradation initiatives regarding collaboration in decision making process to address biological invasions in relation to some land restoration measures</p>	<p><b>Activity B.3.1.</b> Incorporate biosecurity measures in the restoration of degraded lands using local plant species and tree products (<i>Bambusa spp</i>, <i>Irvingia spp.</i>).</p> <p><i>Environmental Impact Assessments (EIAs) do not systematically incorporate assessments of IAS risk in its processes. It would be necessary to take this into consideration while implementing Activity B.2.1. SOPs and guidelines for inspection, detection, diagnostics and monitoring of LMOs and IAS could be developed during the execution of this activity.</i></p> <p><b>There is an ongoing GEF funded project in Cameroon which seeks to use <i>Bambusa ssp</i>, <i>Irvingia spp</i>, etc) for Biodiversity Conservation, Sustainable Livelihoods and Emissions Reduction in Cameroon. <i>Bambusa spp</i> was identified as being invasive during the CBP I. Hence, the CBP II will ensure that biosecurity measures are observed in order to control the use of <i>Bambusa spp</i> and avoid its negative consequences on the environment</b></p>

	<p><b>Output B.4.</b> Pilot cost recovery mechanism developed</p>	<p><b>Activity B.4.1.</b> Develop a pilot cost recovery mechanism based on the tools and resources used</p> <p><i>Cost recovery options for LMO and IAS management will be investigated in all sectors so that economic sustainability is addressed across all aspects of the project thus internalising externalities and providing finance for LMO and IAS management operations</i></p>
<p><b>DIRECT OUTCOME 3a.</b> <i>Functional Administrative and Institutional system strengthened with operational capacity to manage LMO and IAS introduction</i></p>	<p><b>Output C.1.</b> National biosecurity capacity strengthened for diagnostic, testing and monitoring of LMOs and IAS and, mainstreamed into other sectors</p>	<p><b>Activity C.1.1.</b> National training on LMO detection, diagnostics and monitoring</p> <p><i>This activity is intended to strengthen the institutional capacity of national laboratories in LMO detection, diagnostics and monitoring. The target participants to benefit from this training will be laboratory technicians in the stakeholder institutions which have received laboratory equipment as support from the Cameroon Biosecurity Project Phase II.</i></p> <p><i>There is a need for capacity in areas such as traditional and molecular diagnostics/identification, risk analysis, inspection methods and integrated approaches to the management of biological invasions in Cameroon for the implementation of an integrated cross-sectoral risk-based approach to biosecurity.</i></p> <p><i>Training manuals as well as trained trainers of CBPI constitute essential resources that could be taped to roll out training to wider constituents</i></p>
		<p><b>Activity C.1.2.</b> Prepare strategies for mainstreaming biosecurity capacity into regulatory, institutional and education systems</p> <p><i>Execution of this activity will involve the preparation of training modules covering biosafety, risks and benefits of modern biotechnology, risk analysis of LMOs, and public awareness, consultation and participation.</i></p>
	<p><b>Output C.2</b> Sufficient equipment and infrastructure in place</p>	<p><b>Activity C.2.1</b> Procure modern equipment and infrastructure for testing and detection of LMOs and IASs at biosecurity posts including ports of entry, by relevant Control &amp; Inspection Services of the Competent National Authority (MINEPDED) and other relevant administrative departments</p> <p><b>Activity C.2.2.</b> Procurement of laboratory equipment for detection of LMOs accompanied by training of the staff (laboratory technicians) on the use of the equipment</p> <p><i>Capital equipment and supplies for LMO detection are also required especially for laboratories found in the northern regions of Cameroon to increase national coverage.</i></p>

<p><b>DIRECT OUTCOME 3b.</b> <i>Improved Biosecurity Communication, Awareness and Information exchange with the use of knowledge management and learning strategies for effective biosecurity.</i></p>	<p><b>Output C.3</b> The National Biosecurity Communication and Awareness raising Plan implemented</p>	<p><b>Activity C.3.1.</b> Update and implement the National Biosecurity Communication and Awareness-raising Plan</p> <p><i>Different communication strategies for different stakeholder categories were identified in CBP1 and the implementation phase was initiated. In CBP II, the initiated implementation phase of the National Biosecurity Communications and Awareness-raising Plan will be reviewed, updated, elaborated and finalized. There is a need to ensure that, the updated national biosecurity communication and awareness raising plan integrates risk communication and community engagement.</i></p>
	<p><b>Output C.4.</b> Information and communication products developed and distributed</p>	<p><b>Activity C.4.1.</b> Develop and disseminate biosecurity information and communication tools</p> <p><i>Critical information about LMOs and IAS is still lacking. It is essential that invasion risks of live imports and potential IAS vectors are assessed in a timely manner. This requires quick/rapid access to relevant and credible information. Consequently, the development and dissemination of biosecurity information and communication tools need to be sustainable.</i></p>
	<p><b>Output C.5</b> National Biosecurity Information System (NBIS), including a participatory monitoring network using citizen science and modern ICT is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols..</p>	<p><b>Activity C.5.1.</b> Develop a Biosecurity Information System including a participatory monitoring network, using citizen science and modern ICT, in consultation with stakeholders to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols</p> <p><i>Implementation of this activity will involve reviewing, updating and preparing strategies for an effective national biosecurity information exchange system; establishing synergy among information hubs such as the International Phytosanitary Portal, the CHM, and national BCH and ABSCH. This will include a participatory monitoring network using citizen science and modern ICT; and operationalizing the National Biosecurity Information System to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols. The essence is to ensure an effective easy to access one-stop shop through which to obtain relevant information.</i></p>

? Incremental reasoning and global environmental benefits

The project's **incremental approach** can be summarised as follows: The Government of Cameroon has clearly identified the importance of safeguarding its natural capital (biodiversity and ecosystem services) by mainstreaming biosecurity into key policy, regulatory and institutional frameworks and across key sectors

through its contribution for the Cameroon Biosecurity Project and the process of submitting the National Biosecurity Law to Parliament. Despite this strong commitment, priority is yet to be given to the integration and management of LMOs and IAS ; and, systemic and institutional barriers still remain against achieving the required changes, despite the urgency of the issue of land and forest degradation and associated impacts on biodiversity, ecosystem services and livelihoods. **In the baseline situation**, the barriers are insufficient capacity for integrating biosecurity concerns into all management actions that affect the interdependent terrestrial, coastal and marine ecosystems. This means that a business-as-usual scenario would promote continued weakness in terms of coordination and integration of biosecurity concerns among the various sectors and stakeholders that manage or influence terrestrial, coastal and marine resources and ecosystems. Hence, the risk of LMOs and IAS to key ecosystem services; biodiversity conservation, climate change adaptation and mitigation, and, watershed services will continue to be widespread in areas ranging from upland and lowland forests and grassland ecosystems to agricultural landscapes and out to marine habitats. Significant impacts include biodiversity loss, sedimentation, pollution and nutrient overloads flowing from terrestrial to coastal and marine ecosystems. **In the alternative scenario enabled by the GEF**, systemic and institutional barriers to mainstreaming the prevention, control and management of LMO and IAS will be removed at the national, and local levels, backed by incentives for community-based natural resource management to make sustainable land and forest management compatible with effective biodiversity and ecosystem management. The integration of biosecurity considerations into the various programmes and projects described in the baseline analysis will help to improve the management effectiveness of protected areas; prevent species extinctions; management of zoonotic diseases; sustainably conserve globally significant biodiversity; and protect and improve ecosystem function. This means strengthening the national economy and local livelihoods, and generating global environmental benefits. At the pilot landscapes, stakeholder capacity development and local level integrated green development will reduce the threats posed by LMOs and IAS and help to ensure that interventions affecting land use such as reforestation, grazing land, biofuel, plantation and species introduction for erosion control do not result in negative side-effects in terms of impacts of LMOs and IAS. This will contribute to significant reductions in pasture and forest degradation, improved status of globally significant biodiversity and improved and sustainable livelihoods. Addressing knowledge gaps, strengthening capacity for more holistic ecosystem management, and promoting inter-sectoral coordination and policy harmonisation could be considered as a major contribution to the implementation of plans under the NBSAP and at a higher level, to the National Development Strategy, thus integrating biosecurity issues into sectoral and overall national policies and plans.

#### ? Global Environmental Benefits:

The project is designed to: i) reduce globally significant threats to biodiversity by improving management frameworks to prevent, control, and manage LMOs and IAS ; ii) avoid species extinction as a result of IAS through management; iii) improve management effectiveness of protected areas (in line with Core indicator 3); and; iv) strengthen capacity and partnerships to mainstream prevention, control and management of IAS. The project will also contribute to the objectives of the CBD by implementing plans identified in the Cameroon NBSAP. The project will also directly contribute to the implementation of the 2030 Global Biodiversity Framework, specifically Targets 6 ? on Invasive Alien Species, 17 on Biosafety, Targets 20 ? 21 regarding strengthening capacity-building and development; integrated and participatory biodiversity management; and, strengthen communication, awareness-raising, education, monitoring, research and knowledge management and, also traditional knowledge, innovations, practices and technologies of indigenous peoples and local communities. It will also contribute knowledge, experience and lessons to address some of the key issues in managing biological invasions as was envisaged under the Aichi targets (see Annex 1). The project will directly or indirectly contribute to all 17 SDGs but in particular to SDG 2 (zero hunger) and SDG 12 (Ensure sustainable production and consumption patterns) by embedding biosecurity considerations into mainstreaming sectors, SDG 13 (Climate Change) with the advent of GM

trees and their potential role in the fight against climate change, SDG 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) by incorporating risk-based LMO and IAS management into marine resource management, and SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss) by incorporating risk-based IAS and LMO management into land management decisions and by directly managing LMO and IAS impacts to conserve biodiversity in terrestrial protected areas. Additional global environmental benefits also include enabling and/or assisting Cameroon in achieving land degradation neutrality (LDN) under the UNCCD Convention and mitigating of greenhouse gas emissions in the production landscapes of Cameroon for the UNFCCC

? Innovation, sustainability and potential for scaling-up:

This approach acknowledges and actively incorporates the issues of scale, proximity and interconnectedness of environmental systems, and utilises a cross-cutting approach to provide 'joined up' solutions for sustainable development. Addressing biosecurity as a national issue with systemic causes and consequences will help to ensure that a suite of interacting threats to the terrestrial and marine environment are addressed. By tackling issues relating to LMOs and IAS under the biosecurity issue will ensure that limited capacity in risk-based management is maximally utilised, notably through the use of systematic prevention, early detection and rapid response, control and management through pathways and species-based risk analysis process. In addition to LMOs and IAS, other threats include land-based pollutants, nutrients and sediment, disrupted hydrological services, and degradation of critical habitat that have significant negative impacts on important coastal/marine ecosystems including wetlands, mangroves, sea grass beds and coral reefs. The management systems adopted through this project will build on approaches to mainstreaming IAS pioneered in the Pacific Ocean and in Seychelles (under a UNDP-GEF Project). However, they differ from the Seychelles work and that adopted in SIDS in several key dimensions: the incorporation of biosafety under the biosecurity umbrella; the development of coordination and implementation mechanisms that take into account the greater importance of agriculture to Cameroon than Seychelles, Cameroon's relatively diversified economy and its relatively high biosecurity capacity at least in terms of the traditional functions of a national quarantine service. **The emphasis, therefore, will be on improving upon existing structures in multiple sectors to embed LMO and IAS considerations, not on creating major new structures from scratch.** Breaking down silos and embedding biosecurity considerations in sectoral decision-making can help to move LMOs and IAS from the margins to the mainstream for improved efficiency, effectiveness and sustainability. Cost recovery options for LMO and IAS management will be investigated in **key biodiversity related sectors so that economic sustainability is addressed across all aspects of the project thus internalising externalities and providing finance for LMO and IAS management operations. This will include recovery options in managing trade and movements of biological organisms or introductions through testing fee and handling systems at port of entry, quarantine and health posts as applicable.** This approach of systematic reinforcement and inter-sectoral coordination has been perceived as a possible model for developing countries with relatively diversified economies and significant fragmented LMO and IAS management capacity. The emphasis on national biosecurity measures through this project will help to sustain the biodiversity gains leveraged by the project. Community groups were contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. Embedding IAS considerations into activities undertaken at the site and landscape levels will help the individuals involved and the communities they represent to appreciate the importance of IAS which will enhance their effectiveness as land stewards. The experiential nature of the learning involved in carrying out IAS-related activities will complement more traditional training, awareness and knowledge exchange activities to build a practical appreciation of the value of IAS-related knowhow. Experiencing the practical benefits of incorporating biosecurity considerations into daily operations can help internalize an issue that has, in most countries, persisted as a barely acknowledged externality. The integrated approach to IAS prevention, control, and management developed in this project



can serve as a good practice model for other developing countries and countries in transition seeking to balance productivity with environmental sustainability.

The project results as indicated in the knowledge management plan as updated will promote sharing, innovation and scale up of its experiences and practices on the Risk Analysis approach with a Biosecurity lens within COMIFAC, Francophone Africa and through cooperative activities and processes at the regional level, the COPs and international meetings

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[1] Information obtained from <https://tradingeconomics.com/cameroon/imports>

[2] Not all target species are strictly speaking alien to the systems under consideration. For example, *Typha latifolia* is native to much of tropical Africa but can take advantage of changed water and salinity levels (often precipitated by invasive alien water weeds) to become invasive. *Pteridium aquilinum* is distributed globally and its origin is unclear. Strictly speaking, therefore, it is more precise to refer to ?invasive species? but the term ?alien? is maintained in this document because of its widespread usage.

[3] MINEPDED (2015). Black and white lists of priority invasive species and management

approaches for Cameroon. [<https://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/black-and-white-lists-priority-invasive-species-and-management-approaches>]

[4] MINEPDED (2018). Quantification of end of project knowledge levels concerning biological invasions and LMOs in Cameroon. [<http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/quantification-end-project-knowledge-levels-concerning-biological-invasions>]

[5] Although reference is made to ? LMOs and IAS ? throughout this document, this is not meant to imply that all LMOs are IAS. IAS are a subset of all introduced species, the vast majority of which do not become invasive. LMOs are also a subset of all introduced species. LMO introductions have a short history so it is not possible to conclude that very few LMO species are likely to become invasive at this stage. However, the history of (non-LMO) species introductions supports this assertion.

[6] Project outputs can be found on the CHM national portal <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite>

[7] The Water hyacinth and the Lake Ossa sites will be used as project pilot sites. The potential sites will be further reviewed during the PPG stage. These sites will be used to simulate and test the tools and concepts developed

[8] <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/quantification>

*-end-project-knowledge-levels-concerning-biological-invasions-and*

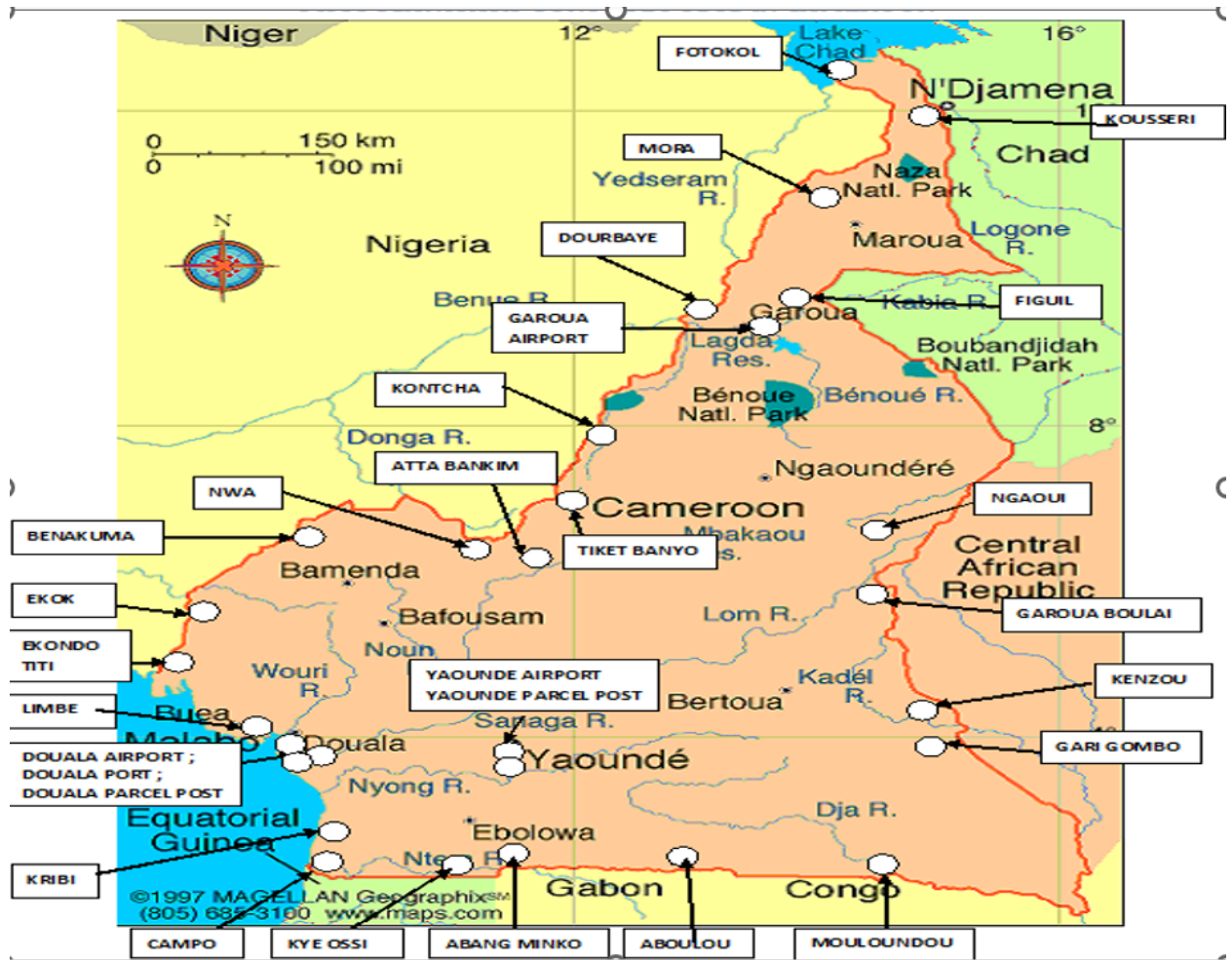
[9] <http://cm.chm-cbd.net/bch-cameroun/projet-biosecurite/information-and-awareness-raising-component/national-biological-invasions-communications-and-awareness-raising-plan>

## **1b. Project Map and Coordinates**

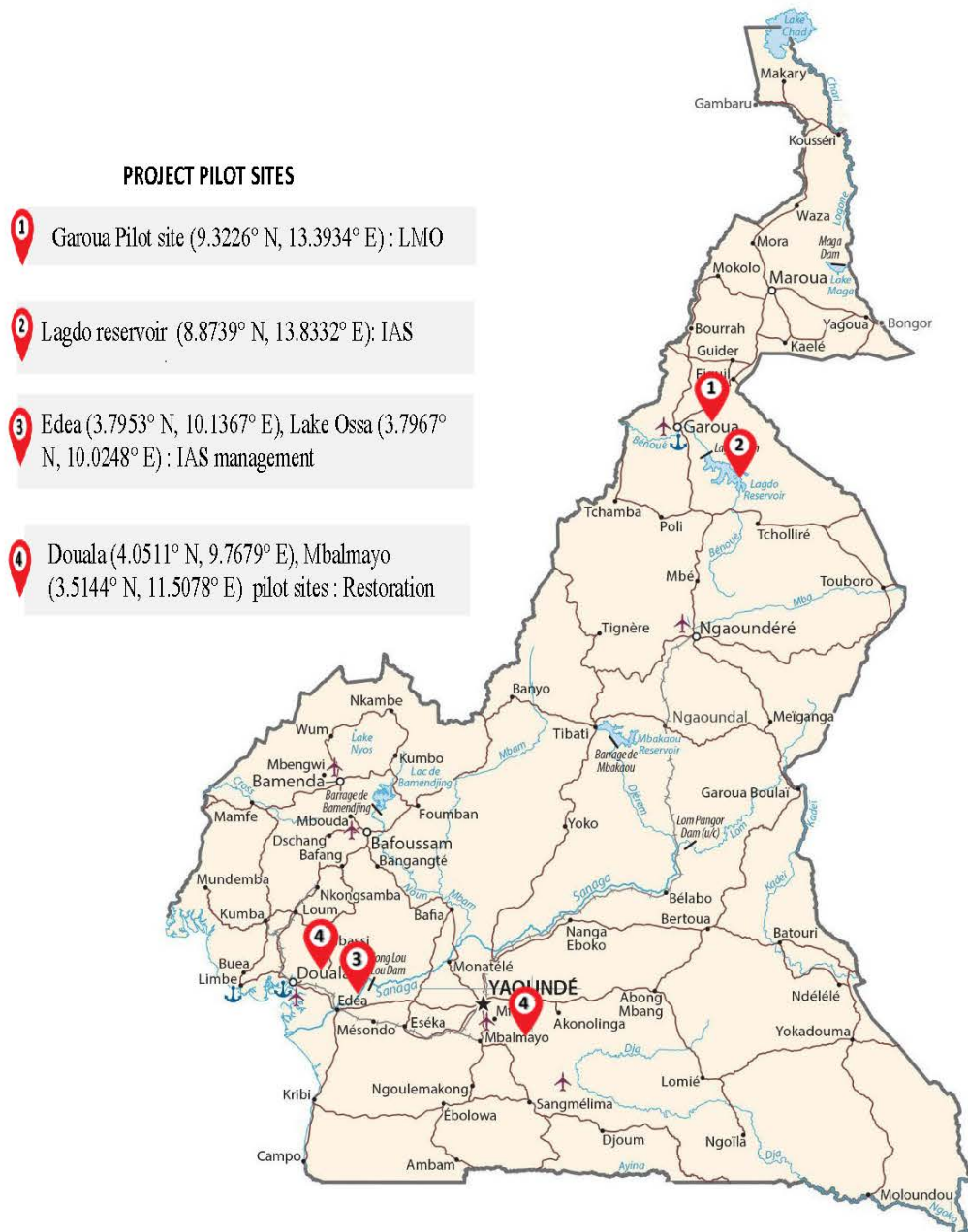
**Please provide geo-referenced information and map where the project interventions will take place.**

The project will be implemented at the national level (Cameroon located between latitude 2.16° N ? 13.09° N and longitude 8.48° E ? 16.09° E), with a strong focus on ports of entry. The project will focus on six ports of entry as follows: the Douala & Kribi seaports, the Douala and Yaounde airports and the Ideanau and Kye Ossi points of entry as well as Ekok entry points. National ports of entry and internal locations of phytosanitary and zoosanitary posts are indicated in the map here below.

**Map: Positions of Phytosanitary Posts on the map of Cameroon (Ndikontar 2009).**



Map: Location of identified project pilot sites on the map of Cameroon



Project pilot sites will be required to test the tools developed during CBP I. In this regard, Lake Ossa in the Littoral region and the Lagdo dam in the Northern region have been identified for IAS management of *Salvinia Molesta* and water hyacinth (*Eicchornia crassipes*). In terms of LMO management, the GM cotton trials field sites carried out by SODECOTON and BAYER in Garoua in the Northern region of Cameroon which were terminated in 2020, will be used to test for residual LMOs and simulated actions on risk assessment and risk management in monitoring LMOs, possible contamination of the surrounding cultures. The pilot sites of Douala in the Littoral Region and Mbalmayo in the Central Region of Cameroon will be used to ensure that biosecurity measures are observed in the restoration of degraded landscapes using *Bambusa spp.*, *Irvingia spp.* The biosecurity tools will be tested essentially via simulations and in some cases mock drills.

Source: *cameroon map gis geography - Google Search* (map adapted to reflect project pilot sites)

### 1c. Child Project?

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

### 2. Stakeholders

**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities** Yes

**Private Sector Entities** Yes

**If none of the above, please explain why:**

The effective implementation of the Cameroon Biosecurity Project phase II is to a large extent dependent on the quality of engagement by the stakeholders. In order to maximize outputs and outcomes, the stakeholder analysis needs to be inclusive of the private sector, civil society, indigenous peoples and local communities (IPLCs), and the government. Approaches to stakeholder engagements in the CBP II are inevitably addressed both at the preparatory and eventually the execution stages. This is crucial for the sustainability of the project.

The following groups of stakeholders have participated in consultations during the project identification phase: indigenous people and local communities, civil society organisations, private sector entities, and government sector entities.

The stakeholder organisations or stakeholder groups [1] that are likely to be represented on the Project Steering Committee, their biosecurity role and their role in the project is summarised in the table below.

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[1] The list of stakeholder organisations and groups identified in the table is not exhaustive. Further inputs will be made during the PPG phase of the project

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

The identified stakeholders and their roles are highlighted below

Stakeholder	Role in biosecurity and in the project
<p>Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)</p>	<p>MINEPDED is the central authority for the protection of the environment in Cameroon. As the focal point for the Cartagena Protocol on Biosafety, MINEPDED is the regulatory agency for approval of all importation requests for LMOs and the setting of conditions for import and the issuing of certification for export and is responsible for the assessment of the environmental impacts of potential LMO introductions to Cameroon. MINEPDED is the operational focal point for CBD under which it has coordinated the production and implementation of the NBSAP. It is the focal point for the UN Convention to Combat Drought and Desertification in Africa (UNCCD) and the GEF Climate Change Mitigation Technical Focal Point Agency. Climate change adaptation and mitigation activities and land management activities can result in unplanned consequences in terms of IAS impacts. MINEPDED will help ensure that biosecurity considerations are integrated into LD and CC activities to minimize biological invasions-related risks. MINEPDED is responsible for the development of the EIA system in Cameroon and will help ensure that biosecurity considerations are incorporated into the EIA process.</p> <p>MINEPDED will coordinate project preparation (PPG stage) and execution. It will establish a Project Coordination Unit (PCU) located in the ministry. A representative of MINEPDED will chair the Project Steering Committee. MINEPDED will coordinate the implementation of risk-based management of LMO transfer, handling and use, the incorporation of the issue of biological invasions in environmental planning (EIAs, etc.), and will provide expertise particularly in the area of biosafety.</p> <p>The PCU will work in collaboration with the Coordination Unit of the GEF TRI Child Project to ensure that biosecurity considerations are taken into account during the restoration of degraded landscapes using local plant species and tree products such as <i>Bambusa spp.</i>, <i>Irvingia spp.</i> in target sites; as well as, the Sudano - Sahelian agro-ecological zone projects on Land Degradation Neutrality</p>
<p>Ministry of Agriculture and Rural Development (MINADER)</p>	<p>MINADER is directly responsible for the majority of activities that concern <b>plant-related biosecurity</b> in Cameroon and plays a significant role in land management for agriculture and ecosystem services. The National Plant Protection Organization under MINADER is responsible for plant protection through prevention of entry of pests and diseases. MINADER also conducts surveys of IAS, undertakes seed testing, and supports the development of IPM and the introduction of biological control agents, the development and monitoring of regulations and standards, and crisis management in agriculture.</p> <p>MINADER will provide expertise during project preparation in the development of plant-related biosecurity measures especially from the National Plant Protection Office and related departments. It will take the lead in activities concerning the implementation of risk-based management to the import and export of plants and plant products, the incorporation of risk-based decision-making processes in pest management in arable systems and will provide expertise particularly in the area of plant protection during the project preparation.</p>

Stakeholder	Role in biosecurity and in the project
Ministry of Livestock, Fisheries and Animal Industries (MINEPIA)	<p>MINEPIA is directly responsible for the majority of activities that concern <b>domestic animal-related biosecurity</b> in Cameroon and plays a significant role in land management for agriculture and ecosystem services. The management of the introduction of diseases with animals and animal products is undertaken by the Animal Health section of MINEPIA. MINEPIA operates zoosanitary control in accordance with the principles outlined in the WTO/SPS Agreement and the standards developed by OIE. <b>MINEPIA is mandated to supervise sanitary control in maritime and river fishing, and to ensure safety of food of animal and fishery origin.</b></p> <p>MINEPIA will take the lead in the development and execution of activities concerned with <b>biosecurity relating to trade in animals and animal products</b>, the incorporation of the issue of biological invasions into animal import and export decision-making, the incorporation of risk-based decision making processes in the management of biological invasions in pastoral systems, will assist (along with MINSANTE) in the incorporation of the issue of biological invasions into decisions relating to vector management, and will provide expertise particularly in the area of animal health and management of zoonotic diseases during the project preparation.</p>
Ministry of Basic Education (MINEDUB) and Ministry of Secondary Education (MINSEC)	These Ministries (MINEDUB and MINSEC) will provide expertise on primary and secondary curriculum development, assist the project in incorporating biosecurity into relevant education courses and provide expertise on training and capacity building during the project preparation and execution.
Ministry of Forestry and Wildlife (MINFOF)	<p>MINFOF provides for the establishment and management of a protected areas system, making provision for the conservation and protection of forests and trees and the licensing and sale of forest produce. In this role, MINFOF is responsible for the management of IAS that threaten forest ecosystems and protected areas and the export of materials (possible IAS and associated pests &amp; diseases).</p> <p>MINFOF will incorporate the issue of biological invasions into decisions relating to forestry e.g. importation of exotic forestry and agro-forestry species and will provide expertise particularly in the area of forest pests during the project preparation and execution.</p>
Ministry of Scientific Research and Innovation (MINRESI);	<p>MINRESSI oversees the work of IRAD and IMPM.</p> <p>IRAD's biosecurity work is related through its agricultural research. IMPM has three main centers :</p> <ul style="list-style-type: none"> <li>? CREMER (centre de recherche sur les maladies ?mergence pour le suivi de variante de COVID et les tests de dispartache et formation des infirmiers des h?pitaux</li> <li>? CRPMU centre de recherche sur les plants m?dicinale et m?dicament traditionnelle</li> <li>? CRASAN Centre de recherche en alimentation, s?curit? alimentaire et nutrition</li> </ul> <p>MINRESI will provide expertise on the development and implementation of research related to biosecurity during the project preparation and execution. They will also provide experts to support the development of technical manuals and guidelines on risk analysis, detection and monitoring using biosecurity measures</p>

Stakeholder	Role in biosecurity and in the project
Ministry of Higher Education (MINESUP)	<p>MINESUP oversees the execution of all higher education in Cameroon. It is responsible for the content and quality of tertiary education including courses of relevance to biosecurity as taught at universities in Cameroon including the University of Yaounde 1 and the University of Buea.</p> <p>MINESUP will provide expertise on tertiary curriculum development, assist the project in incorporating biosecurity into relevant tertiary education courses and provide expertise on training and capacity building during the project preparation and execution. They will also provide laboratory services at the designated laboratories at University of Yaounde 1 and the University of Buea to provide LMO Detection and PCR/ELIZA-based methodologies to support detection of LMOs and IAS as applicable</p>
Ministry of Public Health (MINSANTE)	<p>MINSANTE is responsible for the management of human health and invasive diseases. Although these are considered outside the remit of biosecurity as defined in the draft Biosecurity Law, this ministry remains a key player in the biosecurity system as a whole. MINSANTE is involved in inspection at ports of entry in close collaboration with biosecurity agencies. This helps to minimize duplication and overlap in terms of information acquisition and recommended actions. In addition, the management of vector-borne diseases is the responsibility of MINSANTE and MINEPIA. MINSANTE controls quarantine of persons and use of LMOs (vaccines pharmaceuticals) in medicine, and food hygiene standards and plays a key role in emergency responses in the management of infectious diseases using Biosecurity responses including COVID-19 among others</p> <p>MINSANTE will, along with MINEPA, assist in the incorporation of the issue of biological invasions into decisions relating to vector management, infectious diseases and provide expertise particularly in the area disease vector management during the project preparation..</p>
Ministry of Finance (MINFI)	<p>MINFI, through its Customs and Excise services, is the front line for the interception of goods at the point of entry for the collection of tariffs and the regulation of border issues relating to terrorism and smuggling ? particularly drugs. MINFI is a key stakeholder in implementing biosecurity measures relevant to trade-related biosecurity pathways.</p> <p>MINFI will incorporate the issue regarding collection of duties and fees into decisions relating to the movement of biological material through entry points, coordinate data on manifests to biosecurity officials at points of entry to facilitate inspection and provide expertise particularly in the area of inspection during the project preparation and execution of planned activities.</p>
Ministry of Mines Energy and Technological Development (MINMIDT)	<p>MINMIDT is responsible for the local transformation of agricultural and forestry products in conjunction with Ministry of Forestry and Wildlife, etc., and, the promotion and management of quality of products meant for the local market and for export in conjunction with the relevant administrations. It has several departments of relevance to biosecurity such as the <b>Department of Quality Development</b> which also harbours the focal point for the Codex Alimentarius. In this regard, MINMDT will be in charge of <b>creating norms and standards</b> for LMO management in Cameroon during the project implementation and in the operationalization of the national biosecurity system.</p>



Stakeholder	Role in biosecurity and in the project
Ministry of Trade (MINCOMMERCE)	MINCOMMERCE is responsible for <b>promoting and defending the quality of products for local/foreign markets, and monitoring the application of importation standards</b> in conjunction with relevant administrations. The ministry through its agencies (e.g. the Chambers of Commerce) will assist in development of biosecurity and monitoring standards as it relates to trade and movement of products during project execution
Indigenous Peoples and Local Communities;	Local communities and indigenous communities will be a key stakeholder under all components, particularly in Components 2 and 3. Community based organizations will be involved in all relevant capacity building and communication-related activities not only as recipients of project inputs but also as resource providers. Representatives of relevant community-based organizations will sit on the Project Steering Committee. Local communities such as the Douala 4 Council will be involved in execution activities at the pilot site on the control of the water hyacinth ( <i>E. crassipes</i> ). This will apply to other local communities such as the Douala 5 Council and Lagdo in the Northern part of Cameroon.
Civil Society Organisations	<p>Civil Society Organisations such as NGOs, Cooperative Societies and Common Initiative Groups will play a major role in awareness raising and information dissemination under component 3 of the project. They will contribute to the elaboration of interventions under Component 3 and provide expertise in community engagement and outreach activities. Civil Society Organisations such as the Watershed Task Group, the TADU Dairy Cooperative and the African Marine Mammal Conservation Organisation (AMMCO) will be involved in project execution especially at the pilot site level.</p> <p><b>The Watershed Task Group (WTG)</b> is managing water hyacinth (<i>Eichhornia crassipes</i>) in the Douala area in the Littoral Region of Cameroon.</p> <p><b>TADU Dairy Cooperative</b> is actively involved in the management of Bracken fern (<i>Pteridium aquilinum</i>) in Kumbo in the North West region of Cameroon. This site was identified as a project pilot site during the first phase of project execution and could serve as a good pilot site for the second phase as well.</p> <p>Another civil society organization of interest is the <b>African Marine Mammal Conservation Organisation (AMMCO)</b> which is actively involved in the control of <i>Salvinia molesta</i> in Lake Ossa in the Littoral Region of Cameroon. The control of <i>S. molesta</i> involves the use of a biological control agent, the salvinia weevil (<i>Cyrtobagous salviniae</i>), a method which has been tested and proven to be very effective as a primary control tool for salvinia in several countries. The project will work with AMMCO to ensure that biosecurity measures are respected during the control of <i>S. molesta</i>.</p>
Private Sector	<p>The Biosecurity project indirectly works with the private sector via the National Biosafety Committee (NBC). For the first phase of execution of the project, the Cameroon Biosecurity project accompanied the NBC during the GM cotton field trials carried out by SODECOTON and BAYER in Northern Cameroon. In 2020, the GM field trials were terminated.</p> <p>During the second phase of execution of the Cameroon Biosecurity project, the project will work with the private sector in the domain of information and awareness raising and will make available, project deliverables (technical manuals, reports etc.) in enforcing biosecurity measures in Cameroon. The biotechnology laboratories having benefitted from equipment procured by the project, will serve as detection and monitoring centres for LMOs.</p>
Other stakeholders	Other stakeholders will include local governments, universities and research organizations, and multilateral and bilateral partners working on related activities (See an elaborate list of stakeholders in Annex Q).

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

A detailed Stakeholder Analysis and Engagement Plan is attached to the prodoc as Annex Q.

**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;**

**Co-financier;**

**Member of project steering committee or equivalent decision-making body; Yes**

**Executor or co-executor;**

**Other (Please explain)**

### **3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

#### **Gender Context in Cameroon**

In recent years, the Cameroonian government has demonstrated a surface-level commitment to improving women's rights across the country. Cameroon is party to the major international treaties and forums concerning women's rights, including the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Beijing Declaration Platform for Action. As such, it constitutionally recognizes gender equality and has actively encouraged women's political participation at a national level. The Cameroonian government supports women's initiatives, in both the Ministry of Women's Affairs as well as several gender-related non-governmental organizations (NGO's) <http://gci-cameroon.org/wp-content/uploads/2013/01/Gender-Equality-in-Cameroon-2011>

In the Ministry of Women's Empowerment and Family (MINPROF), the Government has embarked upon a process of rational and sustainable management of its forests and natural resources / The Forests and Environment Sector Programme (CFESP) set out to provide a coherent framework for all activities conducive to the attainment of the country's forestry and wildlife preservation policies. The National Environment Management Plan (NEMAP) includes a 'Women in environmental programmes' section. Its goal is the integration of women in environmental programmes and the promotion by women's use of environmental protection methods.

As part of the process of transforming Cameroon into an Emerging Economy by 2035, the Government of Cameroon prepared a Growth and Employment Strategy Paper in 2009 that is currently being implemented and takes into cognizance gender considerations. **To support this vision, a gender assessment was conducted**

to develop a project-specific gender mainstreaming strategy and action plan during the PPG (See Annex P). A dedicated budgetary allocation has been provided to support implementation of gender responsive actions with clearly identified targets. As a result, gender and social issues will be fully considered in the project, and gender accountability as a cross-cutting issue will be tracked as part of the project's M&E system.

With the development of gender-sensitive indicators in the log frame and monitoring framework the project will pursue a gender-sensitive approach whereby gender equality in participation will be strongly promoted. The success factors behind existing good practice examples of women and youth inclusion in activities will be investigated as a basis for scaling up. Under all components, participation of women on an equal footing will be promoted in terms of both numbers involved and degree of participation in decision-making. Equal participation of men and women in governance systems and decision-making forums and in capacity building activities will be encouraged. During the design phase of the project, the role played by women in different project components (gender baseline) will be documented and this information will be used in planning and implementing project activities to help ensure that the project promotes gender equality. The project will work closely with women's associations and businesswomen. The project will encourage qualified women applicants for positions under the project as per Government rules and regulations.

The integration of gender issues in Cameroon effectively began having significance in 2004, when the Ministry for the Promotion of Women and the Family (MINPROFF) was created. MINPROFF came to enrich the mandate of the Ministry of Social Affairs and the Status of Women created in 1989 and whose mission equally included the protection of women and vulnerable communities. The main missions of MINPROFF are:

- o Ensure the elimination of all discrimination against women;
- o Ensure increased guarantees of equality for women in the political, economic, social and cultural fields;
- o Study and submit to the Government the conditions facilitating the employment of women in administration, agriculture, commerce and industry;
- o Liaise with national and international political organizations for the advancement of women;
- o Ensure the supervision of women's training organizations, excluding educational establishments, ministries responsible for education;
- o Study and propose strategies and measures aimed at strengthening harmony in families.

The implementation of the national gender policy is coordinated by the Ministry for the Promotion of Women and the Family (MINPROFF), which initiated in 2019 the Phare Program (PP) Making Every Woman and Girl Count (MEWGC). Its objective is to provide technical assistance to improve the production of gender statistics in all areas of the SDGs.

In August 2019, during the first session of the inter-ministerial committee on gender statistics in Cameroon, the Minister for the Promotion of Women and the Family noted that 80% of gender equality indicators in the sustainable development goals (SDGs) lack data in Cameroon. According to the Gender Equality Index (ADB, 2015), Cameroon is ranked among the countries with low gender equality.

Despite the fact that women are the numerical majority (51.5%) among Cameroon's young and adult population, they are largely excluded from government operations in general. The proportion of women

MPs improved between 1992 and 2018, from 13% to 31%. However, between 1997 and 2002, there was the lowest proportion of women MPs (6%). The proportion of women senators increased between 2013 and 2018, from 21% to 26%. However, the gap between men and women remains considerable. Between 1997 and 2022, the proportion of women ministers and assimilated doubled, from 7% to 16%. This increase, although steady over the formation of governments, remains low. Men predominantly occupy command posts in Cameroon. Since 2004, no woman has served as Governor. From 2012 to 2019, we went from one to two female Prefects. The number of female sub-prefects, for its part, remains mixed although it increased slightly between 2006 and 2019, thus increasing from 2 to 15. The gap between male and female salaried workers has remained significant since 1995 when it was 17 points to be 16 points in 2019. However, it should be noted that the percentage of female salaried workers has grown steadily over time. In fact, between 1995 and 2019, we went from around 6% to 14% of women who work and receive a monthly salary. This indicates an improvement in the economic situation of women, although much remains to be done to achieve gender equality.

In terms of natural resource management, women are a key player in the use of forest resources in Cameroon with 84.5% of women in rural areas. 58% of them work in the rural production sector (World Bank, 2010) and informal agriculture employment affects more Women (57,9%) than men (48,5)%. Women are involved in agriculture, collection of Non-Timber Forest Products (NTFPs), hunting and fishing. Their contribution to agricultural work is significant and sometimes even greater than that of men.

According to the 2018 annual report monitoring the implementation of the rural sector development strategy, rural producers are the socio-economic group most exposed to precariousness and constitute 66.1% to national poverty cohort. The rural environment, where nearly 43.7% of the total population resides, concentrates 90% of people living below the poverty line, i.e. with less than 931 F CFA per day to cover all the basic priority needs of an adult (ECAM 4, INS).

The first results of the General Census of Agriculture and Livestock (RGAE, 2017) indicate that of the 14,340 villages in the country, 12% have markets for selling agricultural products. Nearly 27.2% of the country's villages are connected to the electricity grid and almost all of the villages surveyed are connected to at least one telephone network (92.56%). At the national level, in 2018, 6.9% of villages will have storage facilities for agricultural products and 1.3% will have storage facilities for livestock inputs. 10.7% of agropastoral communities have an agricultural post, while an average of 5.05% of villages have a zootechnical and veterinary center. 65% of the population uses solid fuels.

In the cash crop sector, women generally face enormous difficulties, particularly in terms of access to land, land ownership (21.6% of land titles issued belong to women (MINDCAF, 2013) and 2.8% of women own a land title), agricultural inputs, financial resources (credit, subsidies, grants, etc.) and modern farming techniques. While 39% of the national population lives below the poverty line, this rate rises to 51.5% for women. 79.2% of them are underemployed. Only 3% of women own a house without land title and 1.6% own a land title in their name. Women represent 71.6% of workers in the informal agricultural sector. 32.5% of women over 25 have reached some level of secondary education (39.2% for men). Boys have privileged access to education. 65% are enrolled in secondary school compared to 53% for girls. The percentage of women in parliament in 2017 was 27.1%. The prevalence of malnutrition in children under 5 is higher in boys than in girls. On average, each Cameroonian woman gives birth to 5.1 children.

The maternal mortality rate is 782 per 100,000 live births. The rate of adolescent girls aged 15-19 giving birth is 105.8 per 1000. HIV prevalence among 15-49 year olds is 5% for women and 2.3% for men. . 43.2% of women in union experience domestic violence. 39.8% and 14.5% of them are respectively confronted with emotional and sexual violence. In all, 56.4% of women in union have experienced at least one of these forms of violence. Young men and men are more likely to face arbitrary arrests, forced recruitment and extrajudicial killings, as well as the risk of injury or death directly related to the conflict. Women spend an average of 8.2 hours more per week than men on unpaid housework. 16.8% of women have credit for some use.

### ***Legal framework for the promotion of gender equality and protection of women's rights***

International, regional and sub-regional legal instruments ratified by Cameroon constitute the base on which the legal framework on the promotion and protection of women's rights is based.

#### *International legal instruments specific to women*

Among the international legal instruments specific to women, we can mention at the global level:

- ? ILO Convention No. 89 on Night Work for Women, revised on 9 June 1948;
- ? the Convention on the Political Rights of Women adopted by the United Nations General Assembly on July 7, 1954;
- ? the 1957 Convention on the Nationality of Married Women;
- ? the Declaration on the Protection of Women and Children in Times of Emergency and Armed Conflict adopted in December 1974;
- ? the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) adopted on December 18, 1979 and its additional protocol of October 6, 1999;
- ? the Declaration on the Elimination of Violence Against Women of December 20, 1993;
- ? Resolution 1325 of the United Nations Security Council.

#### At the regional level

- ? the African Charter on Human and Peoples' Rights of June 27, 1981;
- ? the constitutive act of the African Union of 2000 which advocates parity at the level of representation in the various elected positions of the Union;
- ? the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women of Maputo (2003);
- ? The Declaration of African Heads of State on Equality between Men and Women (2004), which emphasizes the equal rights of men and women in all fields.

#### At the national level

The national legal arsenal includes both general texts and those specifically protecting women. In relation to texts of general scope adopted since 1995, we can cite:

- ? The preamble to the Constitution of Cameroon of January 18, 1996, sets out fundamental human rights and advocates equality between men and women;

? the Penal Code provides that the penal law is binding on all without distinction of sex and several provisions-12 35th Ed of the J.I.F., "Promotion of equality and protection of the rights of women by 2020";

? the Labor Code recognizes the right to work for all citizens as a fundamental right which recognizes the right of women.

? the Commercial Code offers both men and women the opportunity to carry out their commercial activities;

? the Code of Criminal Procedure sets out the principle of equality between men and women in taking into account their rights in proceedings against them in the event of the commission of an offense;

? the Electoral Code, article 246 of which makes it compulsory to take gender into account in the composition of electoral lists and the various laws on political parties deal with electoral capacity and the conditions of eligibility which are the same for men and the women ;

? the General Civil Service Statute guarantees the same rights to men and women in matters of civil service employment and career management;

? the law of 29 December 2005 on the fight against trafficking and trafficking in children which also protects the little girl.

With regard to specific texts, we can note:

? the 1994 decree on the civil pensions system which recognizes the widow's right to a survivor's pension;

? the law of December 19, 1999 which consecrates, among other things, the abolition of marital authorization of women travel.

The national strategy orientation sets the course of action as follows:

o Reduce the poverty rate for women from 40.2% to 28.7%;

o Facilitate equal access for women and men to the means of production ;

o Develop measures to facilitate equitable control of the means of production by women and men;

o Reduce gender inequality in employment and vocational training ; - strengthen women's entrepreneurial skills.

|

In this regard, institutions should ensure that: gender is taken into account in sector policies and budgets; gender is taken into account in policies, programs and projects; as well as strengthen the establishment of integrated gender promotion structures and increase the resources allocated to gender budgeting.

All these measures reflect the will of the Cameroonian State to promote an inclusive society offering all (men, women, boys and girls) the same opportunities and the same rights. Despite the efforts made in their implementation, the results remain mixed. Indeed, in several areas such as education, training, employment, etc., the gaps remain perceptible in terms of gender equality.

The position of Gender within the Biosecurity project

In previous projects implemented in the country, there was a significant imbalance in gender representation as women made up about 20% of the participants. However, women and the youth need to be at the forefront and their participation in biodiversity protection and involvement in biosecurity and biosafety activities is gradually increasing. Thus, the Biosecurity Project Phase II targets at least 45% of women and youth beneficiaries.

The project will ensure the inclusion of women and youth in project implementation through training activities and membership in technical expert groups, consultancies and the project steering committee (PSC) and the Project Management Unit (PMU) and active participation in consultation workshops. In this sense, project management and monitoring will be gender sensitive, tools and manuals to developed will be designed to ensure gender responsiveness including gender disaggregated indicators showing who is involved and whose views are represented.

Gender considerations and gender inclusive activities shall be cross-cutting within all the components of the project. Indeed, by emphasizing on how women and men shall participate in decision-making related to biosecurity issues. The project shall promote the overall national gender policy and the GEF Gender Mainstreaming Policy and its Gender Equality Action Plan and the new Gender Action Plan to the Kunming-Montreal Global Biodiversity Framework, shall be based on substantial initial mainstreaming activities, an action plan taking into account the gender dimension has been developed during the PPG phase. The gender action plan and dedicated budgetary allocation is reflected in the updated Annex P.

As the project relies on a number of capacity building and trainings for all stakeholders on Biosecurity, gender equality is relevant to ensure a balanced representation of women and men, boys and girls. The implementation of gender mainstreaming and gender transformation activities has been included in the Gender Action Plan. Efforts will be made to maintain an acceptable representation of women, men and vulnerable communities in the project management structures (committees, institutional frameworks). Particular attention will be paid to gender sensitive indicators and gender responsiveness within the various project components and the project deliverables.

In addition, this project shall organize gender capacity building workshops on topics identified in the gender action plan. The topics of the workshop would be centred but not limited to sensitisation and training on gender issues in relation to the legal framework on biosecurity and biosafety promotion. Institutions to be involved on gender engagement will include, but not be limited to: Ministries in charge of gender, the gender focal points, civil society organizations as well as research institutions and development partners working in the fields of gender and biodiversity.

In addition to the overall objective of implementing the Biosecurity Project, it is envisaged to strengthen the social inclusion of vulnerable groups (Indigenous and local Communities -IPLCs) in general and women in particular. Women are more dependent on natural resources for their livelihoods, thus requiring secure rights of access and use for these resources. The design and implementation of the project shall respond to gender concerns throughout the project cycle in order to strengthen the socio-economic safety nets as well as empowerment of women, their training and women's leadership development right across the IPLCs.

To maximize the benefits that accrue to women in the project, support shall be provided for their participation in trainings, leadership forums and economic development opportunities, as well as access to resources. The project will take into account gender specificities in order to strengthen the recruitment and use of competent staff, men and women, boys and girls with proven skills; and encourage the government, organizations and partners on the integration of gender in their various activities. Capacity building, project development training, peer exchange and gender mainstreaming training should promote gender equality in the project. The mobilization of a gender expert and the involvement of women are essential during the implementation phase of the project.

The project activities includes gender budgeting to ensure that resources on gender aspects are taken into account during project implementation. This shall also be guaranteed by the composition of mixed committees where there is a balance between men and women at different levels, which will promote gender equality. Additional efforts will be made to provide gender training to local populations, local NGOs and communities especially at the pilot site activities and outreach activities. Gender sensitive indicators have been included within the monitoring framework of the gender action plan with a dedicated budget that takes into account the expected results of the project as indicated in Annex P.

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;**

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women**

**Does the project's results framework or logical framework include gender-sensitive indicators?**

Yes

#### **4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

The activities of private industry and private landowners are key IAS drivers. Private industry representatives will work closely with the project with regard to IAS issues of relevance to land and seascape management. Private industry and industry associations (such Chambers of Commerce) will be consulted over the biosecurity implications of trade-related issues and will be the target of awareness raising and capacity building activities based around the development and implementation of good practice guidelines to embed IAS issues into key sectors whose activities have IAS implications. Section 2 on Stakeholder engagement highlights and provide some examples of Private sector engagement which will be further strengthened. Additional details of stakeholder engagements and identified roles of the Private sector are elaborated in Annex Q.

#### **5. Risks to Achieving Project Objectives**

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**



Risk	Level	Management strategy
Biosecurity measures lack broad based support leading to poor compliance.	L	A high degree of collaboration is necessary, so it is important to develop a participatory framework for project development and implementation. Experience with the Cameroon Biosecurity Project Phase I helped to develop structures to maximize intra- and inter-sectoral collaboration (Project Advisory Committee and Interministerial Task Teams). These structures will be built upon to maximize collaboration among the component lead agencies. The roles delegated to other entities will be formalized through applicable agreements (e.g. MoUs) with MINEPDED using clear ToRs that will be developed during the PPG. During project implementation, the final design of specific initiatives will continue to include key stakeholders and to ensure their inputs are considered in decision-making. During project implementation there will also be ongoing participation and inclusion of all stakeholders in activities that may impact them, both positively and negatively. The project will implement the National Biosecurity Communication Strategy and Action Plan that will specifically target the development of support among key stakeholders and the general public for effective biosecurity.
Institutional conflicts over the management of land resources constrain implementation of activities.	M	Overlaps persist between institutional jurisdictions in Cameroon so the potential for conflicts exists. This will be managed through the participatory framework for project development and implementation outlined above and also stakeholder representation at the Project Steering Committee level.
Insufficient community mobilization and involvement in the project constrain implementation of activities.	L	Community groups will be contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. An example can be seen within the Water Hyacinth Project, whereby, the Watershed Task Group (WTG) in collaboration with MINEPDED, has actively engaged community participation in the management of water hyacinth in the Douala area and has organised several trainings on the transformation of water hyacinth in to compost, biogas as well as the production of mats, baskets etc. Community participation will be maximized by securing Free, Prior Informed Consent (FPIC) from community groups, the involvement of local communities in restoration-related activities as volunteers and paid staff and the development of local management committees in pilot studies as appropriate.
Liberalized trade will increase the risk of IAS introductions.	M	The project will help strengthen the institutional biosecurity framework so that the pressures resulting from increased imports can be effectively managed. Key sector ministries including the Ministry of Commerce and other regulatory officials will be trained on the use of the tools developed for risk analysis and decision making.

Risk	Level	Management strategy
Lack of transparency in the intentional introductions of LMOs will jeopardize effective risk-based management	M	The project will establish a transparent mechanism for science-based risk assessment of LMOs; and, training for detection and enforcement as well as project-led communication activities to minimize illegal introduction and propagation of LMOs.
Climate Change: Cameroon is likely to witness sea level rise and extended dry spells, which may make conditions more suitable for colonization of certain IAS.	H	<p>Risk assessments will take into account changing climate conditions. General Climate change adaptation measures will be developed and undertaken through other interventions and coordination with this intervention is essential to ensure that adaption measures do not increase IAS risks.</p> <p>The mean annual temperatures for Cameroon are projected to rise by 1.75°C (1.32°C to 2.56°C) in 2040-2059[1] accompanied by a rise in annual precipitation by 30.07mm (-256.09mm to 367.41mm). This may result in an increased frequency of extreme events such as floods as well as droughts especially in the northern regions of Cameroon. As a consequence to climate change, loss of pasture lands, reduced access to water supplies, degradation of water quality, scarcity of water resources for livestock, crop loss/failure, loss of marine habitat, increased ranges of vector-borne diseases and increased risk from waterborne diseases may prevail in these regions. Faced with this challenges, the public may potentially import and use LMOs (for ex. GM Cotton) that are better adapted (or perceived to be tolerant) to abiotic stress. The potential of climate change scenarios on the countries' response will be integrated into capacity building activities. Furthermore, strategies will be put in place to anticipate and proactively manage such changes in public perception of LMOs under circumstances of climate change.</p>

Risk	Level	Management strategy
Disease Outbreak (Covid-19)	Medium	<p>Statistics published by the WHO, as at 10 December 2021, there have been 107,549 confirmed cases of COVID-19 with 1,823 deaths, reported to WHO. As of 5 December 2021, a total of 970,440 vaccine doses have been administered.[2]</p> <p>Cameroon was the most affected country in the Central African region. The first case was declared on the 6<sup>th</sup> of March 2020 and ever since then, many measures have been taken by Cameroonian government with the aim of reducing the transmission of this virus. Compared to other countries, a complete lockdown has not been observed, because the pandemic found a weak economy, tortured by the various crisis in its North regions with Boko haram and South-West and North-west regions with separatists? group. The country could not afford a complete break of its economic activities.[3]</p> <p>COVID-19 pandemic found a weak economy due to the different internal crises that the country is facing. Companies located in the southwest and northwest regions have been paralyzed by political issues. Both regions account for 16.3% of Cameroonian GDP (Mbadi, 2019)[4]. Among them, the greatest employer of the country in terms of the number of employees: CDC, where all activities have been stopped since then.</p> <p>The UNDP forecasted that because Cameroon relies a lot on the importation, worldwide lockdowns will create a shortage in inputs, in the same way, it may create a slowdown of economic activities. The COVID-19 pandemic has had significant devastating effects on the country's economic activities with some companies actually feeling these effects. In a survey made by GICAM ( 2020 ) from the 13<sup>th</sup> to 21<sup>st</sup> April 2020, in a sample of 100 enterprises, 92% admitted the pandemic is adversely affecting their turnover[5]. Globally, 44% of companies declared that the purchases have been affected. Most impacted are manufacturing company with 56%. Tomatoes and chicken sectors have faced a severe crisis. Tomatoes crisis is firstly due to closed borders of countries like Equatorial Guinea and Gabon which greatly import tomatoes from Cameroon. Prices dropped to 80% and placed several producers in a very difficult position.</p> <p>With the devastating effect of COVID-19 on the economy of the countries affected, governments are focusing public resources on rebuilding the economies of countries. Cameroon is not an exception. The risk is only partly under project control. The importance of having a strong national biosecurity framework in place and foster financial commitment from key sectorial stakeholder institutions cannot be overemphasized.</p>

[1] <https://climateknowledgeportal.worldbank.org/country/cameroon/climate-data-projections>

[2] <https://covid19.who.int/region/afro/country/cm>

[3] [https://mpa.ub.uni-muenchen.de/102245/1/MPRA\\_paper\\_102245.pdf](https://mpa.ub.uni-muenchen.de/102245/1/MPRA_paper_102245.pdf)

[4] Mbadi, O. (2019). Crise anglophone au Cameroun: les entreprises dans la tourmente. Jeune Afrique.

[5] GICAM. (2020). COVID-19 Impact sur les entreprises au Cameroun. GICAM

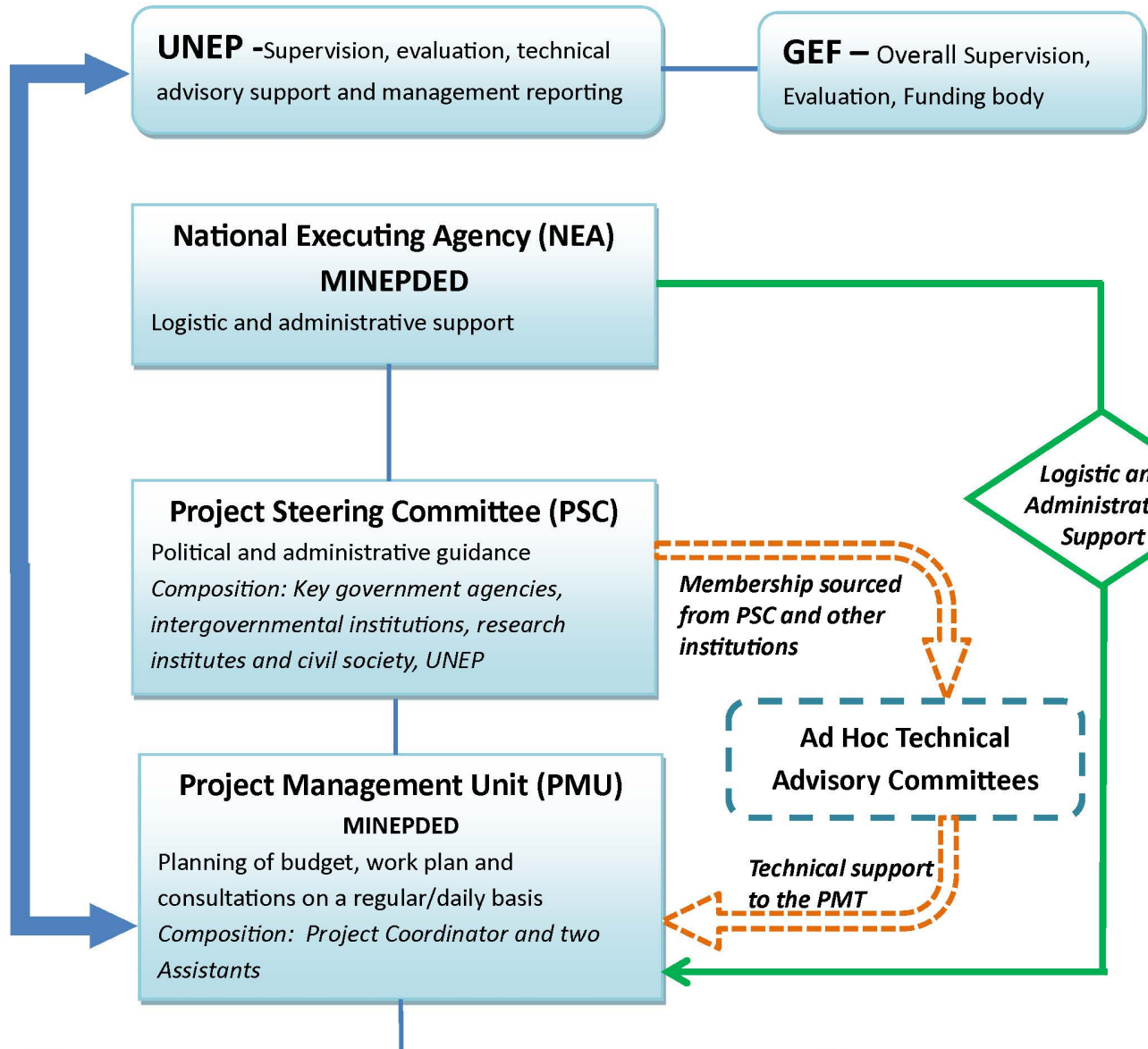
## 6. Institutional Arrangement and Coordination

### **Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

Infrastructure and arrangements for overall project administration will be based on those developed for the UNEP/GEF Cameroon Biosecurity Project Phase I. Project coordination and implementation arrangements will be established within 3 months of project start up through MINEPDED, the lead executing agency. The project's biosecurity activities and knowledge management activities will take into account both site-based and landscape level impacts. The project will collaborate closely with the Secretariat of the One Health Programme in Cameroon. UNEP will work to ensure that previous relevant experiences in biodiversity, climate change and SLM projects are taken into account in planning and implementation. Coordination with ongoing projects and programs will be facilitated by UNEP and will involve ongoing contacts with project executing agencies as well as coordination through formal project structures such as its steering committee and working groups. The project will be implemented by UNEP and executed at the country level by MINEPDED (*the National Executing Agency - NEA*). MINEPDED will designate a National Project Coordinator to lead the *Project Management Unit (PMU)*. The National Coordinator will be supported by 2 Assistants ? a Technical and Administrative Assistant and a Financial and Administrative Assistant. The Project Management Unit may be assisted by an IT staff to maintain the biosecurity website and its interoperability with other websites including the nBCH. The National Project Coordinator will be accountable to MINEPDED and to UNEP for the delivery of agreed national project outputs, maintain regular communication within MINEPDED and with UNEP and will supervise the work of the Project Management Unit, which will be responsible for the day to day running of the project. The PMU will be established within MINEPDED. MINEPDED will also work closely with other key stakeholders in the domain of biosecurity and will chair the Project Steering Committee. *The Project Steering Committee (PSC)* will be established by the MINEPDED to provide guidance to the project on national political, legal and administrative issues, to facilitate interagency coordination, monitoring and to provide technical support. The PSC will be chaired by MINEPDED and will have representation from key government agencies, intergovernmental institutions, research institutes and civil society, gender and IPLCs representatives. *Ad hoc Technical Advisory Groups* will be setup on a case-by-case basis to provide technical support to the PMU in carrying out specific tasks such as the development and validation of ToRs, review and technical validation of deliverables etc. Membership of these groups will essentially be sourced from the PSC based on the expertise requirement. The PMU may also outsource experts to integrate the Ad hoc Technical Advisory Groups if the need arises.

The project institutional arrangements is depicted below and is attached as Annex K

## DECISION-MAKING FLOWCHART AND ORGANIZATIONAL CHART



### Execution of Project Activities

- **COMPONENT 1:** Effective Biosecurity Legislative, Policy, Regulatory and Institutional Frameworks ;
- **COMPONENT 2:** Incorporation of Biosecurity Measures into Pathways for Monitoring and Management of Biological Introductions;
- **COMPONENT 3:** Biosecurity Capacity integrated in regulatory, institutional and national education systems;
- **COMPONENT 4:** Project Coordination, Monitoring and Evaluation

**Project  
Outputs**

## 7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

- ? - National Biodiversity Strategy and Action Plan (NBSAP) - X
- ? - CBD National Report - X
- ? - Cartagena Protocol National Report - X
- ? - Nagoya Protocol National Report - X
- ? - National Plan for Environmental Management
- ? - UNFCCC National Communications (NC)
- ? - UNFCCC Biennial Update Report (BUR)
- ? - UNFCCC National Determined Contribution
- ? - UNFCCC Technology Needs Assessment
- ? - UNCCD Reporting

- Others

This project is country-driven having been developed through a highly consultative process involving principal stakeholders and decision-makers in the fields of environment, fisheries, agriculture, finance, energy and climate change mitigation, including national authorities and state corporation national planning committee, as well as representative of civil society. The project is consistent with, and supportive of the following national strategies and plans and reports and assessments under relevant conventions: The 2030 National Development Strategy, the Cameroon National Plan for Environmental Management (2009) defines the overarching environmental objectives and strategies for the country, which provides a framework for the implementation of the National Biodiversity Strategy and Action Plan (2012-2020) which identifies IAS as a key driver of biodiversity loss and the importance of addressing its root causes such as transport, tourism and trade; the 2012 Forestry and Wildlife Subsector Strategy; and the National One Health Strategy (2012), National Climate Change Adaptation Plan (2015), and the Sustainable Land Management Policy and Investment Plan (2011).

The proposed project fits directly with the UNEP Programme of work with direct linkages to to the Nature Action and Environment Governance sub programmes relating specifically to the Programme Coordination

Project (PCP) on Conservation, Restoration and sustainable use of Biodiversity under Pow Outcomes on 2B - Sustainable management of nature adopted and implemented in development frameworks; and 2C Nature conservation and restoration are enhanced and Pow Indicator 2(iii) - Number of countries and national, regional and subnational authorities and entities that incorporate, with UNEP support, biodiversity and ecosystem-based approaches into development and sectoral plans, policies and processes for the sustainable management and/or restoration of terrestrial, freshwater and marine areas.

It will also contribute to the Governance and Accountability for Biodiversity PCP under Direct Outcome 2.9 on 'Institutional capacity to adopt and act on national and international commitments is enhanced and accountability frameworks are strengthened?' and Direct Outcome 2.3 under the 'Conservation, Restoration and Sustainable Use of Biodiversity?'

The planned actions fit directly and will contribute to the Theory Change in terms of the expected results. It will also contribute to the Kunming-Global Biodiversity Framework Target 6 on Invasive Alien Species and Target 17 on Biosafety

## **8. Knowledge Management**

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

The project design incorporates a third component on knowledge management and learning. This is a clear demonstration of the central importance that the project places on timely access to reliable information as a foundation for risk-based management of IAS and LMOs. Activities undertaken under Component 3 will review and consolidate existing information, establish monitoring systems and communicate relevant information in appropriate formats for different national and international audiences guided through the development of a National Biosecurity Communications and awareness plan. An internet based National Biosecurity Information System (NBIS) will be developed with entry points for information and knowledge entry points or nodes for different stakeholders including the regulatory agencies, private sector, local communities and Civil Society. The NBIS will also generate user friendly dissemination materials, FAQs and status updates which will be shared through the District Councils, through the media (Radio shows, TV and drama groups among others) and the Ministry responsible for dissemination All KM activities will build upon policy and implementation activities undertaken in Components 1 and 2 and will be supported by capacity building undertaken in Component 2. In addition, the project will build upon the knowledge products developed under the Cameroon Biosecurity Project to ensure that the system combines technology, processes and protocols, and most critically people, in a system that manages knowledge for the benefit of the entity in question and the wider system of which it is a part. It is vital, therefore, that the system is compatible with existing systems used in Cameroon such as those developed under the National One Health Strategy, contains clear, agreed upon and implementation processes and protocols and is owned by those in charge of its long-term implementation.

## **9. Monitoring and Evaluation**

**Describe the budgeted M and E plan**

Monitoring will be carried out by the project coordination team and the project stakeholders particularly the project advisory committee, on a regular basis in order to ensure that project performance and progress are as per the project objectives (internal monitoring and evaluation).

In line with the GEF Evaluation requirements and UNEP's Evaluation Policy, GEF Full-Sized Projects and any project with a duration of 4 years or more will be subject to an independent Mid-Term Evaluation or management-led Mid-Term Review at mid-point. All GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.

In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review's performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.

However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project's operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process.

The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Project Manager is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan. The compliance performance against the recommendations is



then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

The costed M & E plan is as below and it is also attached as Annex J:

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Inception Meeting	Project Management Team	20,000	30,000	Within 2 months of project start-up
Inception Report	Project Management Team			1 month after project inception meeting
Measurement of project indicators (outcome, progress and performance indicators, GEF Core Indicator tools) at national level	Project Management Team, Project Steering Committee, UNEP		100,000	Outcome indicators: start, mid and end of project Progress/perform. Indicators: annually
Semi-annual Progress/Operational Reports to UNEP	Project Management Team		10,000	Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July
Project Steering Committee meetings	Project Management Team	10,000	20,000	Once a year minimum
Reports of PSC meetings	Project Management Team		10,000	Annually
Audits	Independent Auditors		35,000	Annually
Review and implement the Project Benefit Monitoring and Evaluation plan	Project Management Team, Consultants, experts	29,000	100,000	
PIR	Project Management Team			Annually, part of reporting routine
Monitoring visits to field sites	Project Management Team, Consultants, experts		45,000	As appropriate
Mid Term Review/Evaluation	UNEP, Independent Evaluators, Project Management Team	20,000	40,000	At mid-point of project implementation
Terminal Evaluation	UNEP, Independent Evaluators, Project Management Team	25,000	50,000	Within 6 months of end of project implementation
Project Final Report/Terminal Reports1	Project Management Team		10,000	Within 2 months of the project completion date

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Co-financing report	Project Management Team,			Within 1 month of the PIR reporting period, i.e. on or before 31 July
Publication of Lessons Learnt and other project documents and translated into English/French	Project Management Team	16,000	100,000	Annually, part of Semi-annual reports & Project Final Report
<b>Total M&amp;E Plan Budget</b>		<b>120,000</b>	<b>550,000</b>	

## 10. Benefits

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?**

Several studies have indicated that invasive alien species have an economic impact on Production, Trade, Infrastructure Degradation and of course Costs related to invasion management. Two examples to illustrate this:

- 1- The Lake Ossa wildlife reserve in the Littoral Region of Cameroon, which is also a large reservoir of fisheries resources, is currently threatened by an invasive specie known as *Salvinia molesta*.
- 2- The Lagdo hydroelectric dam in the north of the country is currently being invaded by the water hyacinth (*Eichhornia crassipes*), which has a direct negative impact on the energy production of this infrastructure, as well as on the aquaculture production of this artificial water body.

The second phase of the Cameroon biosecurity project aims at integrating biosecurity into the productive sectors of Cameroon. In this light, it should be noted that the project envisages to test the tools developed during the first phase on these two sites (Lake Ossa and Lagdo Dam). Furthermore, as part of the mechanical fight against these invasive species, the Government of Cameroon, based on the recommendation of the project, has ordered two boats, which will be supplied shortly. These interventions will support the government of Cameroon, in leveraging the benefits of the listed resources including fisheries and production of electricity whilst ensuring the management of the negative impacts of IAS envisaged.

Furthermore, it is also known that a large number of biological invasions are caused by insects which are important crop destroyers and disease vectors. A good example is the Mediterranean fruit fly (*Ceratitis capitata*) which is found in all regions of Cameroon. National agronomists claim that these flies are the ultimate destroyers of peppers. Fruits are attacked in their immature state. After hatching, the fly larva develops in the fruit and drops it before it matures, being on the ground, the larva returns to the ground, develops, reaches the adult state and flies to the non-infected fruit.

Another example worth mentioning are the damages caused by the tomato fruit fly (*Dacus punctatifrons*), considered as the major pest of tomato fruits, more precisely in southern Cameroon. This fly also attacks fruits of the Cucurbitacea family (watermelons, melons, etc.). Surveys in 1996 and 1997 showed that in the locality of L?ki? (southern Cameroon), this fly was the main cause of the drop in tomato production. All these examples show the need to strengthen monitoring capacities. To this end, the project plans to equip six (06) phytosanitary control points, including the training of users of the equipment to be acquired.

The project has provided examples of the potential socio economic benefits, based on the interventions, the project expects to gain quantitative data to showcase the benefits attained with he interventions.

At the social level, invasive species have an indirect impact on unemployment and can increase poverty in some regions. For example, due to the presence of water hyacinth in the Lagdo hydroelectric dam and *Salvinia molesta* in Lake Ossa, tens of thousands of fishing families have lost their livelihoods because of these invasive species. Fishing boats cannot cross the weed to reach open water.

On another note, in addition to the activities planned for the adoption of the draft biosecurity law developed during the previous phase, the project intends to contribute to the development of a critical mass of human resources at the national level in terms of biosecurity, through the mainstreaming of biosecurity into the national education system. This is a guarantee of sustainability that also allows Cameroon to achieve global environmental benefits. All the project activities contribute ultimately in the conservation and protection of Cameroon's biodiversity in compliance with the prescriptions of the Cartagena Protocol on Biosafety and the Convention on Biological Diversity.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

### Overall Project/Program Risk Classification\*

PIF	CEO Endorsement/Approva I	MTR	TE
Low	Low		

#### Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Risk	Level	Management strategy
Biosecurity measures lack broad based support leading to poor compliance.	L	A high degree of collaboration is necessary, so it is important to develop a participatory framework for project development and implementation. Experience with the Cameroon Biosecurity Project Phase I helped to develop structures to maximize intra- and inter-sectoral collaboration (Project Advisory Committee and Interministerial Task Teams). These structures will be built upon to maximize collaboration among the component lead agencies. The roles delegated to other entities will be formalized through applicable agreements (e.g. MoUs) with MINEPDED using clear ToRs that will be developed during the PPG. During project implementation, the final design of specific initiatives will continue to include key stakeholders and to ensure their inputs are considered in decision-making. During project implementation there will also be ongoing participation and inclusion of all stakeholders in activities that may impact them, both positively and negatively. The project will implement the National Biosecurity Communication Strategy and Action Plan that will specifically target the development of support among key stakeholders and the general public for effective biosecurity.
Institutional conflicts over the management of land resources constrain implementation of activities.	M	Overlaps persist between institutional jurisdictions in Cameroon so the potential for conflicts exists. This will be managed through the participatory framework for project development and implementation outlined above and also stakeholder representation at the Project Steering Committee level.
Insufficient community mobilization and involvement in the project constrain implementation of activities.	L	Community groups will be contacted early in the PPG process to elicit their interest and cooperation. There is a long and successful tradition of community participation in biodiversity conservation activities in Cameroon. An example can be seen within the Water Hyacinth Project, whereby, the Watershed Task Group (WTG) in collaboration with MINEPDED, has actively engaged community participation in the management of water hyacinth in the Douala area and has organised several trainings on the transformation of water hyacinth in to compost, biogas as well as the production of mats, baskets etc. Community participation will be maximized by securing Free, Prior Informed Consent (FPIC) from community groups, the involvement of local communities in restoration-related activities as volunteers and paid staff and the development of local management committees in pilot studies as appropriate.
Liberalized trade will increase the risk of IAS introductions.	M	The project will help strengthen the institutional biosecurity framework so that the pressures resulting from increased imports can be effectively managed. Key sector ministries including the Ministry of Commerce and other regulatory officials will be trained on the use of the tools developed for risk analysis and decision making.

Risk	Level	Management strategy
Lack of transparency in the intentional introductions of LMOs will jeopardize effective risk-based management	M	The project will establish a transparent mechanism for science-based risk assessment of LMOs; and, training for detection and enforcement as well as project-led communication activities to minimize illegal introduction and propagation of LMOs.
Climate Change: Cameroon is likely to witness sea level rise and extended dry spells, which may make conditions more suitable for colonization of certain IAS.	H	<p>Risk assessments will take into account changing climate conditions. General Climate change adaptation measures will be developed and undertaken through other interventions and coordination with this intervention is essential to ensure that adaption measures do not increase IAS risks.</p> <p>The mean annual temperatures for Cameroon are projected to rise by 1.75°C (1.32°C to 2.56°C) in 2040-2059[1] accompanied by a rise in annual precipitation by 30.07mm (-256.09mm to 367.41mm). This may result in an increased frequency of extreme events such as floods as well as droughts especially in the northern regions of Cameroon. As a consequence to climate change, loss of pasture lands, reduced access to water supplies, degradation of water quality, scarcity of water resources for livestock, crop loss/failure, loss of marine habitat, increased ranges of vector-borne diseases and increased risk from waterborne diseases may prevail in these regions. Faced with this challenges, the public may potentially import and use LMOs (for ex. GM Cotton) that are better adapted (or perceived to be tolerant) to abiotic stress. The potential of climate change scenarios on the countries? response will be integrated into capacity building activities. Furthermore, strategies will be put in place to anticipate and proactively manage such changes in public perception of LMOs under circumstances of climate change.</p>

Risk	Level	Management strategy
Disease Outbreak (Covid-19)	Medium	<p>Statistics published by the WHO, as at 10 December 2021, there have been 107,549 confirmed cases of COVID-19 with 1,823 deaths, reported to WHO. As of 5 December 2021, a total of 970,440 vaccine doses have been administered.[2]</p> <p>Cameroon was the most affected country in the Central African region. The first case was declared on the 6<sup>th</sup> of March 2020 and ever since then, many measures have been taken by Cameroonian government with the aim of reducing the transmission of this virus. Compared to other countries, a complete lockdown has not been observed, because the pandemic found a weak economy, tortured by the various crisis in its North regions with Boko haram and South-West and North-west regions with separatists? group. The country could not afford a complete break of its economic activities.[3]</p> <p>COVID-19 pandemic found a weak economy due to the different internal crises that the country is facing. Companies located in the southwest and northwest regions have been paralyzed by political issues. Both regions account for 16.3% of Cameroonian GDP (Mbadi, 2019)[4]. Among them, the greatest employer of the country in terms of the number of employees: CDC, where all activities have been stopped since then.</p> <p>The UNDP forecasted that because Cameroon relies a lot on the importation, worldwide lockdowns will create a shortage in inputs, in the same way, it may create a slowdown of economic activities. The COVID-19 pandemic has had significant devastating effects on the country's economic activities with some companies actually feeling these effects. In a survey made by GICAM ( 2020 ) from the 13<sup>th</sup> to 21<sup>st</sup> April 2020, in a sample of 100 enterprises, 92% admitted the pandemic is adversely affecting their turnover[5]. Globally, 44% of companies declared that the purchases have been affected. Most impacted are manufacturing company with 56%. Tomatoes and chicken sectors have faced a severe crisis. Tomatoes crisis is firstly due to closed borders of countries like Equatorial Guinea and Gabon which greatly import tomatoes from Cameroon. Prices dropped to 80% and placed several producers in a very difficult position.</p> <p>With the devastating effect of COVID-19 on the economy of the countries affected, governments are focusing public resources on rebuilding the economies of countries. Cameroon is not an exception. The risk is only partly under project control. The importance of having a strong national biosecurity framework in place and foster financial commitment from key sectorial stakeholder institutions cannot be overemphasized.</p>

[1] <https://climateknowledgeportal.worldbank.org/country/cameroon/climate-data-projections>

[2] <https://covid19.who.int/region/afro/country/cm>

[3] [https://mpra.ub.uni-muenchen.de/102245/1/MPRA\\_paper\\_102245.pdf](https://mpra.ub.uni-muenchen.de/102245/1/MPRA_paper_102245.pdf)

[4] Mbadi, O. (2019). Crise anglophone au Cameroun: les entreprises dans la tourmente. Jeune Afrique.

[5] GICAM. (2020). COVID-19 Impact sur les entreprises au Cameroun. GICAM

#### Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
<b>SRIF_Cameroon Biosecurity_updated</b>	<b>CEO Endorsement ESS</b>	
<b>SRIF-Cameroon Biosecurity PIF_am</b>	<b>Project PIF ESS</b>	

**ANNEX A: PROJECT RESULTS FRAMEWORK** (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

**ANNEX A: LOGICAL FRAMEWORK FOR CAMEROON BIOSECURITY PROJECT PHASE**

**II**

**Project Title: Implementation and Institutionalization of a National Monitoring and Management Framework for**

**Living Modified Organisms and Invasive Alien Species**

<b>Project Objective</b>	<b>Objective level Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>UNEP POW reference*</b>
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<p><i>To strengthen institutional biosecurity frameworks in the management of invasive alien species and living modified organisms through a coordinated risk analysis approach</i></p>	<p>A functional, broad-based, cross-sectoral biosecurity framework/sy stem is in place by the end of this project:</p> <ul style="list-style-type: none"> <li>- Number of partner organizations having access to appropriate tools and methods for risk assessment, monitoring and management of IAS and LMOs</li> <li>- Level of mobilized public actions on the environmental risks of IAS and LMOs</li> </ul>	<p>1. A national harmonized approach to biosecurity process existing as outcome of CBP1, with initiated biosecurity policy guidelines, legal and institutional frameworks and human and institutional capacity building initiated and implemented to a significant level</p> <p>2. Other on-going programmes by Government and, other initiatives address biosecurity issues in Cameroon.</p> <p>3. Challenges and gaps (left by the CPB1 with a performance that was rated as Moderately Satisfactory) exist at every level, hence need for change</p>	<p>- By the <b>end of this project</b>, the institutional biosecurity framework is strengthened and IAS and LMOs are managed through a coordinated risk analysis approach</p> <p>- By <b>mid-project point</b>, at least 75% of project objectives are realized</p>	<ul style="list-style-type: none"> <li>- Copies of adopted policy &amp; legal instruments are available in documentation centres around the country, e.g. Official Gazette, CIDE, public libraries etc.</li> <li>- Monitoring and Evaluation (M&amp;E) reports by Project Coordination Unit (PCU), Project Technical Advisers (PTA) &amp; Project Advisory Committee (PAC) during and at end of project</li> <li>- Project Final Report by PCU</li> <li>- Terminal evaluation report by UN Environment Programme/GEF</li> <li>- National Report to the CBD/CPB by MINEPDED</li> </ul>	<p><b>1. Assumptions:</b></p> <p>Government has:</p> <ul style="list-style-type: none"> <li>a) Financial resources to upscale/implementation LMOs and IAS policies,</li> <li>b) Adequate human resource to upscale/implementation LMO and IAS policies,</li> <li>c) Long term political will to upscale/implementation LMO and IAS policies and regulations; and,</li> <li>d) there is continuing support from government &amp; cooperation from partner agencies</li> <li>e) CSOs and general public are informed of IAS and LMO issues</li> </ul> <p><b>2. Risks:</b></p> <ul style="list-style-type: none"> <li>a) Budgetary limitations could still delay</li> </ul>	<p><b>Nature Action</b></p>
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				<p>- Online publications by CHM and BCH NFPs</p> <p>- Online web addresses/ with easily accessed links for public information</p>	<p>government release of funds in co-financing.</p> <p>b) Lack of collaboration from ongoing initiatives could be a setback to project effectiveness and efficiency</p>	
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**Component 1 - Effective Biosecurity Legislative, Policy, Regulatory and Institutional Frameworks**

<b>Project Outcome</b>	<b>Outcome Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>POW Indicator</b>
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<p><b>1. Integrated Biosecurity policy, regulatory and institutional frameworks established and operationalized.</b></p>	<p>Number of policy and legal instruments established and adopted by the end of the project</p> <p>An operationalized and functional biosecurity cross-sectoral coordination framework in place within 12 months from project inception</p> <p><b>GEF Core Indicator 11 - Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (2,000 persons)</b></p> <p>Female ? 1,000</p> <p>Male ? 1,000</p>	<p>There exist:</p> <ul style="list-style-type: none"> <li>- The 2003 Biosafety Law &amp; its 2007 enabling instrument</li> <li>- A draft cross-sectoral Biosecurity Law is being processed for adoption by Parliament and promulgation by the Head of State</li> <li>- A draft Decree establishing the National Biosecurity Agency waits signature</li> <li>- A draft Order creating Ad hoc National Biosecurity Committee awaits signature</li> <li>- Fragmented pieces of policy and legal instruments in at least 4</li> </ul>	<ul style="list-style-type: none"> <li>- <b>By end of this project</b>, an effective biosecurity legislative, policy, regulatory, institutional and functional framework is in place.</li> <li>- <b>By mid-project point</b>, draft legislative and regulatory instruments are respectively adopted and/or signed.</li> </ul>	<p>Copies of adopted strategy paper (a policy document) and legal instruments made available in documentation centres, e.g. Official Gazette, CIDE, etc., by the end of the project.</p> <ul style="list-style-type: none"> <li>- Project M&amp;E reports by PCU, PTA &amp; PAC</li> <li>- Project Final Report by PCU</li> <li>- Terminal Evaluation report by UNEP/GEF</li> <li>- National Report to CBD &amp; CPB by MINEPDED</li> <li>- GEF Tracking tools</li> </ul>	<p><b>1. Assumption:</b></p> <ul style="list-style-type: none"> <li>a). Partner organizations have access to appropriate tools and methods for risk assessment, monitoring and management of IAS and LMOs</li> <li>b). Upscale pilot risk-based Management Procedures in 3 identified land and biodiversity projects</li> <li>- There are strong public relations efforts undertaken and public actions are mobilized on the environmental risks of IAS and LMOs</li> </ul> <p><b>2. Risks:</b></p> <ul style="list-style-type: none"> <li>a). Lack of commitment from relevant</li> </ul>	<p>2(iii), 2(iv)</p>
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		related sector ministries exist		<ul style="list-style-type: none"> <li>- Online publications by CHM and BCH NFPs and SCBD; and, partner organizations</li> <li>- Online web addresses/ with easily accessed links for public information</li> <li>- Information in articles by researchers and/or academia</li> </ul>	<p>partners due to disparity in project or programme implementation periods</p> <p>b) GEF funding may run short due to rise in cost of living resulting from recent increase in prices of commodities and services in Cameroon</p>	
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**Component 2 - Incorporation of Biosecurity Measures into Pathways for Monitoring and Management of**

**Biological Introduction**

<b>Project Outcome</b>	<b>Outcome Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>POW Indicator</b>
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<p>2. <i>Sustainable biosecurity strategies for risk-based prevention, early detection and rapid response implemented and tested at Project pilot sites.</i></p>	<p>- Number of partnership arrangement agreed on by Mid-project term</p> <p>- Number of risk-based biosecurity strategies implemented by end of project.</p> <p><b>GEF Core Indicator 3 - Area of land restored (10,000 hectares)</b></p> <p>3.1- Area of degraded agricultural land restored ? 5,000 hectares</p> <p>3.2 - Area of forest and forest land restored ? 2,000 hectares</p> <p>3.3 - Area of natural grass and shrublands restored - 1,000 hectares</p>	<p>- IAS pilot sites were identified and retained during the execution of CBP I</p> <p>- There are ongoing potential partner projects in land degradation and restoration</p>	<p>1. The target by end of this project, is:</p> <p>- the incorporation of biosecurity measures into pathways for monitoring and management of biological introductions</p> <p>-to have partnership agreements for collaboration in addressing biosecurity issues, signed, &amp; implemented</p> <p>2. To have risk-based biosecurity strategies in place by project mid-point</p>	<p>- Copies of MoUs signed by PCU/MINEP DED with partners</p> <p>- M &amp; E reports by PCU, PTA &amp; PAC; through out project life span</p> <p>- Project Final Report by PCU at closure</p> <p>- Terminal evaluation report by UN Environment/ GEF</p> <p>- National Reports to CBD &amp; CPB by MINEPDED as due.</p> <p>- GEF Tracking tools as required.</p> <p>- Online publications by CHM and BCH NFPs</p>	<p><b>1. Assumptions:</b></p> <p>a). Partner organizations have access to appropriate tools and methods for risk assessment, monitoring and management of IAS and LMOs</p> <p>b). Upscale pilot risk-based management procedures in 3 identified land and biodiversity projects.</p> <p><b>2.Risks:</b></p> <p>a). Partner organizations do not have access to appropriate tools and methods for risk assessment, monitoring and management of IAS and LMOs</p>	<p>2(iii), 2(iv)</p>
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3.4 ? Area of wetlands (including estuaries, mangroves) restored - 2,000 hectares

**GEF Core Indicator 4 - Area of landscapes under improved practices (hectares; excluding protected areas) - (2,000 hectares)**

4.1 - Area of landscapes under improved management to benefit biodiversity - 2,000 hectares

**GEF Core Indicator 11 - Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (2,000 persons)**

and SCBD; and partner organizations including articles by researchers and/or academia

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b). Access to some identified/retained biosecurity pilot sites could be impossible due to socio-political insecurity challenges or due to naturally difficult accessibility, as an impediment to pilot site activities

	Female ? 1,000					
	Male ? 1,000					

**Component 3 - Biosecurity Capacity integrated in regulatory, institutional and national education systems**

<b>Project Outcome</b>	<b>Outcome Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>POW Indicator</b>
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<p>3a. <i>Functional Administrative/Institutional system strengthened with operational capacity to manage IAS and LMO introduction</i></p>	<p>1. Number of operational infrastructure and equipment provided</p> <p>2. Level and number of human resources trained, taking into consideration gender balance, in the effective operation of new equipment and infrastructure</p> <p><b>GEF Core Indicator 11 - Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (2,000 persons)</b></p> <p>Female: 1,000</p> <p>Male: 1,000</p>	<p>The CBP1 provided laboratory equipment for detection, diagnostics and monitoring of LMO, as institutional support to the laboratories of the Universities of Buea and Yaounde I.</p>	<p><b>1. End of Project target is:</b></p> <ul style="list-style-type: none"> <li>- incorporation of biosecurity measures into pathways for monitoring and management of biological introductions</li> <li>- Partnership agreements are signed, and being implemented</li> </ul> <p><b>2. By project mid-point</b></p> <ul style="list-style-type: none"> <li>- at least 3 laboratories have infrastructure in place, and equipment purchased</li> <li>- at least 15 laboratory technicians, taking into consideration gender balance, are trained for effective utilization of the acquired equipment</li> </ul>	<p>1. Invoices and receipts will be verified at project office by auditors</p> <p>2. M &amp; E report by PCU, PTA, and PAC</p> <ul style="list-style-type: none"> <li>- MTR report by UNEP/GEF consultants</li> <li>- Activity reports by consultants/PCU</li> <li>- Project Final report by PCU</li> <li>- Terminal Evaluation report by UNEP/GEF at end of project</li> <li>- National Reports to the CBD &amp; CPB by MINEPDED on due terms</li> <li>- GEF Tracking tools as required</li> </ul>	<p><b>1. Assumptions:</b></p> <ul style="list-style-type: none"> <li>- Continuing support from government and Cooperation from Partner agencies</li> </ul> <p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>- Delays in the release of government Co-finance due to government budgetary limitations and/or bottle necks.</li> </ul>	<p>2(iii), 2(iv)</p>
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<b>Project Outcome</b>	<b>Outcome Indicators</b>	<b>Baseline</b>	and/or <b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>POW Indicator</b>
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<p><b>3b. Improved Biosecurity Communication, Awareness and Information exchange with the use of knowledge management and learning strategies for effective biosecurity.</b></p>	<p>1. Number of key agencies with strengthened capacity by the end of project.</p> <p>2. Number of educational institutions with integrated biosecurity curricula in their educational system</p> <p>3. Number of Key institutions that are sensitized on, and are using the available national biosecurity tools-training manuals, guidelines etc.; thereby adding value to their day-to-day activities</p> <p>4. A National Biosecurity Knowledge Management System is in place to inform effective IAS prevention, control, monitoring and management, in partnership</p>	<p>1. There exists biosecurity trainers who were trained during CBP1 ToTs:</p> <p>-33 technicians from 9 institutions were trained in CPB1 during training workshops on detection, diagnostics and monitoring of biological Invasions.</p> <p>- 35 trainers from 13 institutions were trained on inspection systems and methods including treatments.</p> <p>- 27 trainers from 10 institutions were trained on invasive species control systems and procedures.</p> <p>- 34 trainers from 11 institutions trained on contingency planning and emergency response.</p> <p>2. Trained trainers were subsequently used to conduct</p>	<p><b>1. The end of project</b> target is a strengthened institutional capacity for Cameroon with the use of knowledge management and learning strategies for effective biosecurity</p> <p><b>2. By project midpoint</b>, all training materials are in place and learning strategies developed and adopted; and,</p> <p>- MTR carried out and recommendations being implemented</p>	<p>- Project M &amp; E reports by PCU, PTA &amp; PAC; and, done throughout project execution/ implementation process</p> <p>- MTR report by UN Environment consultants</p> <p>- Project Final Report by PCU at end of project</p> <p>- Terminal Evaluation report by UNEP/GEF at end of project</p> <p>- National Reports to the CBD &amp; CPB by MINEPDED on due terms</p> <p>- GEF Tracking tools as required</p>	<p><b>1. Assumptions:</b></p> <p>a). Strong Public Relations efforts undertaken</p> <p>2. Public actions mobilized on the environmental risks of IAS and LMOs</p>	<p>2(iii), 2(iv)</p>
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	<p>with key stakeholders.</p> <p><b>GEF Core Indicator 11 - Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment (4,000 persons)</b></p> <p>Female: 2,000</p> <p>Male: 2,000</p>	<p>national biosecurity training workshops for targeted stakeholders.</p>				
<b>Project Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>

<p><b>Output</b>  <b>A.1 National Biosecurity Strategy (NBS) developed, validated and supported by budgeted action plans</b></p>	<ul style="list-style-type: none"> <li>- An adopted National Biosecurity Strategy in place 12 months from the project inception</li> <li>- Number of validated NBS Action Plans, available or disseminated.</li> </ul>	<p>A National Biodiversity Strategy and Action Plan (NBSAP) exists. The NBSAP traces the pathways, vectors, spread, and establishment; for instance, the proliferation of water hyacinth, very visible in aquatic coastal sites and their adverse effects on ecosystems in biologically invaded sites.</p>	<ul style="list-style-type: none"> <li>- By the end of this project, the NBS is developed, validated and supported by budgeted action plans.</li> <li>- By project mid-point, the Action Plans are being implemented</li> </ul>	<ul style="list-style-type: none"> <li>- Project M &amp; E reports by PCU, PTA &amp; PAC; done periodically throughout the project life span</li> <li>- MTR report by UNEP/GEF consultants</li> <li>- Project Final Report by PCU at the end of project</li> <li>- Terminal Evaluation report by UNEP/GEF at end of project</li> <li>- National Reports to the CBD/CPB by MINEPDED on due terms</li> </ul> <p>Online info. On the CHM, BCH, FAO portals etc.</p> <ul style="list-style-type: none"> <li>- GEF Tracking tools as required</li> </ul>	<p><b>1. Assumptions:</b></p> <ul style="list-style-type: none"> <li>- There is sufficient human and material resources accompanied by conducive working conditions for effective delivery</li> <li>- Project outputs are normally in one language.</li> </ul> <p><b>2. Risks</b></p> <ul style="list-style-type: none"> <li>- Official instruments require to be in English and French. Public information could be limited or marred by translation hurdles.</li> <li>- Delays in the recruitment of international consultants is possible and could delay project outputs</li> <li>- Recruited consultants can withdraw from the process</li> </ul>	<p>2B, 2C</p>
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<b>Project Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>
					due unforeseen circumstances	

<p><b>Output A.2</b></p> <p><i>A cross-sectoral policy coordination framework established for the incorporation of biosecurity issues into the legal and policy framework of mandated agencies, updated</i></p>	<p>-Number of enabling instruments elaborated and signed by the competent authorities within the project lifespan and disseminated</p> <p>-A reviewed, updated, enhanced and amended 2003 national Biosafety Law in place adopted within 36 months.</p> <p>-A regulatory instrument on Liability and Redress relating to LMOs is elaborated and signed by the Head of States, also in place by the end of the project.</p>	<p>-Draft Biosecurity Law developed during the CBP1 is pending adoption</p> <p>-Two (2) enabling instruments- Decree? establishing the National Biosecurity Agency and the Order? creating a National Biosecurity Ad-hoc Committee are pending Government signatures</p> <p>-The 2003 Biosafety Law exists but is marred by a number of gaps and barriers, therefore requires updating and enhancing to reflect current global evolutions and developments in the implementation of the Cartagena Protocol on Biosafety including COP-MOP</p>	<p>By the end of this project, a completed, updated and amended legal and regulatory framework is in place;</p> <p>- By project Mid-point, all draft instruments are in place to enable follow up by CPB II for parliamentary adoption and executive promulgation and/or signatures</p>	<p>-Copies of the draft policy, regulatory and legislative instruments, exist</p> <p>Project M &amp; E reports by PCU, PTA &amp; PAC; carried out throughout project life span is available.</p> <p>-MTR report by UN Environment/GEF consultants.</p> <p>- Project Final Report by PCU at end of project</p> <p>- Terminal Evaluation report by UNEP/GEF at end of project</p> <p>- National Reports to CBD &amp; CPB by MINEPDED on due terms</p>	<p><b>1. Assumptions:</b></p> <p>- Sufficient human and material resources are available for efficient and effective project delivery</p> <p><b>2. Risks</b></p> <p>- Official instruments require to be in English and French. Public information could be limited or marred by translation hurdles.</p>	<p>2B, 2C</p>
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		decisions; and, bringing on board the implementation of the Supplementary Protocol on Liability and Redress		- GEF Tracking tools as required		
<b>Project Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>

<p><b>Output A.3.</b> <i>Framework for improved cross-sectoral planning and coordination of biosecurity promotion, updated</i></p>	<p>An operationalized and functional National Biosecurity Agency is in place within 18 months from project inception.</p>	<p>-A draft biosecurity Law that established/made provisions for the National Biosecurity Agency, exists</p> <p>-A draft Decree Laying down the Conditions for the Organization and Functioning of the National Biosecurity Agency also exists</p> <p>-A draft Order on the creation of an Ad-hoc National Biosecurity Committee</p>	<p>-By end of this project, an organized, operationalized and functional framework for improved cross-sectoral planning and coordination of biosecurity promotion is in place</p> <p>- By project mid-point the draft law is adopted, the draft decree and draft order are signed; and,</p> <p>- The Ad-hoc National Biosecurity Committee is transitioning into a functional National Biosecurity Agency</p>	<p>-M &amp; E reports by PCU, PTA and PAC; are available</p> <p>-Mid-term review report by UN Environment/GEF consultants, available.</p> <p>-Terminal Evaluation report by UN Environment/GEF,</p> <p>-Project final report by PCU;</p> <p>-GEF tracking tools as required</p>	<p><b>1.Assumptions:</b></p> <p>- Government will expedite the process of updating, organizing and operationalizing the National Biosecurity Agency</p> <p><b>Risks</b></p> <p>- Official instruments are required to be in English and French yet, public information could be limited or marred by translation hurdles.</p>	<p>2B, 2C</p>
<p><b>Project Outputs</b></p>	<p><b>Output Indicators</b></p>	<p><b>Baseline</b></p>	<p><b>Targets and Monitoring Milestones</b></p>	<p><b>Means of Verification</b></p>	<p><b>Assumptions &amp; Risks</b></p>	<p><b>PoW Output Reference Number</b></p>



<p><b>Output B.1</b> <b>Pilot risk-based management procedures in accordance with international procedures in place for IAS &amp; LMOs</b></p>	<p>-Number of completed Pilot sites activities</p> <p>-A mapping with listing of IAS distributions in Cameroon</p> <p>-Number of identified different climatic zones vulnerable to different biological invaders</p>	<p>During the first phase of the CBP1, three (3) project pilot sites were retained:</p> <ol style="list-style-type: none"> <li>1. The genetically modified cotton multiple trials sites in Northern Cameroon under SODECOTON .</li> <li>2. The bracken fern management practice in the North West Region of Cameroon by TADU Dairy Cooperative (a CSO)</li> <li>3. The Water Hyacinth Project in the Littoral region under MINEPDED; among others.</li> </ol>	<p>- By end of project, Pilot risk-based management procedures in accordance with international procedures are in place for IAS &amp; LMOs</p> <p>- By project mid-point, pilot site activities are in full swing in the three (3) retained sites.</p>	<p>-M &amp; E reports prepared periodically by PCU, PTA and PAC,</p> <p>-MTR report, UNEP /GEF consultants,</p> <p>- Terminal Evaluation report by UNEP/GEF,</p> <p>- Project final report by PCU</p> <p>-GEF tracking tools as required.</p>	<p><b>Assumptions:</b></p> <p>-Accessibility to pilot sites is easy, geographically and security wise.</p> <p>-There are sufficient funds to cover alternative solutions including means of transport to islands and crisis areas.</p> <p><b>Risks:</b></p> <p>-Some crisis sites could be practically impossible to access</p> <p>-Budgeting hurdles could frustrate and retard project execution</p>	<p>2B, 2C</p>
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<b>Project Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>
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<p><b>Output B.2. Partnership arrangements (MoUs), initiated and agreed upon with other land degradation initiatives regarding collaboration in decision making process to address biological invasions relating to some land restoration approaches</b></p>	<p>-Number of partnership arrangements agreed on and signed within six (6) months of project inception</p> <p>Level or magnitude of resulting benefits from the partnership arrangements reported as outputs or outcomes at the end of the project.</p>	<p>Ongoing relevant initiatives for partnerships include projects on:</p> <ul style="list-style-type: none"> <li>- Land Degradation Neutrality? Sudano - Sahelian agro ?ecological zone.</li> <li>- Supporting Landscapes Restoration ? project (Bambusa ssp?)?</li> <li>- MINEPDED has led initiatives to manage water weeds supported by international NGOs such as IUCN involved in IAS issues including management in protected areas such as: <ul style="list-style-type: none"> <li>- Lake Chad Basin and the Tri-National Sangha (TNS); and national NGOs e.g.</li> <li>- Green Connexion currently</li> </ul> </li> </ul>	<p><b>By end of project</b>, the agreements with at least three (3) selected initiatives are all signed and being implemented</p> <p><b>By project mid-point</b> all the elected arrangements are drafted, validated and being implemented .</p>	<ul style="list-style-type: none"> <li>-Copies of signed agreements with partners such as MoUs are available</li> <li>- M &amp; E reports periodically prepared by PCU, PTA and PAC. Are available at project office.</li> <li>-Mid-term review report by UNEP/GEF consultants,</li> <li>-Terminal Evaluation report by UNEP/GEF.</li> <li>-Project final report by PCU.</li> <li>GEF Tracking tools as required</li> </ul>	<p><b>1.Assumptions:</b></p> <p>-Relevant initiatives are interested and committed to engage in collaborative activities with CBP II.</p> <p><b>2.Risks:</b></p> <p>Disparity in the period of project implementation may hinder collaboration</p> <p>- Consequential lack of commitment from ongoing partner initiatives</p>	<p>2B, 2C</p>
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		<p>working on the conservation of freshwater plants in Cameroon;</p> <p>- Watershed Task Group managing water hyacinth in Douala area in collaboration with MINEPDED.</p>				
<b>Project Outputs</b>	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>

<p><b>Output</b> <b>B.3 Pilot cost recovery mechanism, developed</b></p>	<p>1. A pilot cost recovery mechanism is in place</p> <p>2. Number of degraded land restored by the end of the project exist in project M &amp; E reports as well as final and terminal reports.</p>	<p>No cost recovery mechanisms exist at the moment</p>	<p>By end of this project:</p> <p>1. A cost recovery mechanism is being implemented in at least one selected/pilot site</p> <p>2. at least 50% of degraded land at project pilot sites are restored.</p>	<p>- M &amp; E reports by PCU, PTA and PAC, are available</p> <p>- Mid-term review report by UNEP//GEF consultants,</p> <p>-Terminal Evaluation report by UNEP/GEF</p> <p>-Project final report by PCU</p>	<p><b>1. Assumptions:</b></p> <p>- Appropriate biosecurity tools and resources are available for the restoration of degraded lands</p> <p><b>2. Risks</b></p> <p>- Lack of appropriate biosecurity tools and resources for the restoration of degraded lands could be an issue.</p>	<p>2B, 2C</p>
<p><b>Project Outputs</b></p>	<p><b>Output Indicators</b></p>	<p><b>Baseline</b></p>	<p><b>Targets and Monitoring Milestones</b></p>	<p><b>Means of Verification</b></p>	<p><b>Assumptions &amp; Risks</b></p>	<p><b>PoW Output Reference Number</b></p>

<p><b>Output C.1. National biosecurity capacity strengthened for diagnostic, testing and monitoring of IAS &amp; LMOs , and, mainstreamed into other sectors</b></p>	<p>-Number of national laboratories in LMO detection, diagnostics and monitoring with strengthened institutional capacities, recorded at the end of the project.</p>	<p>-The CBP1 provided laboratory equipment for detection, diagnostics and monitoring of LMO, as institutional support to the laboratories of the:</p> <ul style="list-style-type: none"> <li>- Biotechnology Centre of University of Yaounde I; and,</li> <li>- Biotechnology Unit of University of Buea; including a Real-Time PCR, used in the testing of COVID-19 in the Biotechnology Centre of University of Yaounde 1.</li> </ul> <p>Subsequently, additional support comprised of:</p> <ul style="list-style-type: none"> <li>-Real-Time PCR for the Biotechnology Unit of University of Buea; and,</li> <li>- Some accessories for both</li> </ul>	<ul style="list-style-type: none"> <li>- By end of this project, at least</li> <li>- At least 30 scientists, taking in consideration gender equity, trained in IAS &amp; LMOs mngnt.</li> <li>- 10 laboratory technicians, selected in accordance with gender equity, are trained to efficiently use new technological ly up-to-date equipment provided by the CBP II.</li> <li>- By mid-point at least two (2) Laboratories have new equipment; and institutional strengthening in detection, diagnostics and monitoring of LMOs.</li> </ul>	<ul style="list-style-type: none"> <li>1. .Invoices and receipts will be verified at project office by auditors</li> <li>2. M &amp; E report by PCU, PTA, PAC,</li> <li>3. MTR by UNEP/GEF consultants</li> <li>3. Report on the training of :</li> <li>- At least 30 scientists, taking into consideration gender balance, in the prevention, control and management of biological invasions (IAS)</li> <li>- Laboratory technicians; including list of participants</li> </ul>	<p><b>1. Assumptions:</b></p> <p>GEF funding is enough to cover both equipment and human capacity enhancement</p> <p><b>2. Risks:</b></p> <ul style="list-style-type: none"> <li>- The value of GEF budgeted funds could depreciate in the wake of price increase on commodities and services</li> <li>- In the absence of approvals of LMOs for contained use at the time of offer, the equipment and the enhanced human capacity may not be tested</li> </ul>	<p>2B, 2C</p>
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		laboratories for the year 2021.				
	<b>Output Indicators</b>	<b>Baseline</b>	<b>Targets and Monitoring Milestones</b>	<b>Means of Verification</b>	<b>Assumptions &amp; Risks</b>	<b>PoW Output Reference Number</b>

<p><b>Output C.2.</b> <b>Sufficient equipment and infrastructure in place</b></p>	<p>Number of new equipment and infrastructure for testing &amp; detection of LMOs and IASs available at Control and Inspection offices of MINEPDED and other relevant administrative departments six (06) months from project inception</p>	<p>Control and Inspection services of MINEPDED and other relevant departments have no appropriate working equipment, consequently their reports are based on hear-say and speculations.</p>	<p>A significant number of equipment and infrastructure are provided to the Control and Inspection services of MINEPDED and other relevant services in related departments.</p> <p>-By mid-project point, at least 75 % of the budgeted equipment has been purchased and distributed.</p>	<p>1. Invoices and receipts will be verified at project office by auditors</p> <p>2. M &amp; E report by PCU, PT A and PAC</p> <p>3. MTR by UN Environment consultants</p> <p>Terminal Evaluation report by UNEP/GEF</p> <p>Project Final Report by PCU in due time</p> <p>4. GEF tracking tools as required.</p>	<p><b>1.Assumption :</b></p> <p>Market value of human and material resources remain same as of date of GEF funding and co-financing.</p> <p><b>Risks:</b></p> <p>Already budgeted GEF funding and co-financing may depreciate in value due to price increase in market commodities and services</p>	<p>2B, 2C</p>
<p><b>Project Outputs</b></p>	<p><b>Output Indicators</b></p>	<p><b>Baseline</b></p>	<p><b>Targets and Monitoring Milestones</b></p>	<p><b>Means of Verification</b></p>	<p><b>Assumptions &amp; Risks</b></p>	<p><b>PoW Output Reference Number</b></p>



<p><b>Output C.3</b> <i>The National Biosecurity Communication and Awareness raising Plan implemented</i></p>	<p>-Number of organized communication and awareness raising activities reported</p> <p>-Number of communication and awareness raising tools produced and distributed</p> <p>Existence/presence of biosecurity information marked in public on places including calendars, notice boards, bus-stops; and on common articles of daily use.</p>	<p>- A National Biological Invasions Communications and Awareness raising Plan developed during the execution of CBP1 exists.</p> <p>- The plan identified different communication strategies for different stakeholder categories; and the implementation phase was initiated?</p>	<p>1. End of project target is the <b>effective implementation</b> of the National Biosecurity Communication and Awareness raising Plan.</p> <p>2. The National Biosecurity Communication and Awareness raising Plan will be reviewed and implemented after the project mid-point, i.e. in the second half of the project life span.</p>	<p>- M &amp; E reports by PCU, PTA and PAC,</p> <p>- Mid-term review report by UN Environment consultants,</p> <p>- Terminal Evaluation report by UN Environment,</p> <p>- The Activity report by PCU/Consultants</p> <p>-Project final report by PCU</p>	<p><b>1.Assumptions:</b></p> <p>-Strong public relations efforts undertaken</p> <p>- Public actions mobilized on the environmental risks of IAS and LMOs</p>	<p>2B, 2C</p>
<p><b>Project Outputs</b></p>	<p><b>Output Indicators</b></p>	<p><b>Baseline</b></p>	<p><b>Targets and Monitoring Milestones</b></p>	<p><b>Means of Verification</b></p>	<p><b>Assumptions &amp; Risks</b></p>	<p><b>PoW Output Reference Number</b></p>

<p><b>Output</b> <b>C.4. Information and communication products developed and distributed</b></p>	<p>Number and visibility of biosecurity information and communication targets such as brochures, flyers, customized gender sensitive T-shirts, etc., produced and distributed to stakeholders and the general public.</p>	<p>-A significant number of customized biosecurity designed targets such as brochures, flyers, customized T-shirts, exercise books for school children and note books for adults were made available to the general public during the execution of CBPI</p>	<p>By end of this project:</p> <ul style="list-style-type: none"> <li>- a widespread visibility of biosecurity information is marked on commonly used articles, and, at public places such as bus stops, notice boards; and in stakeholder offices; etc.</li> <li>- By project mid-point, at least 50% of the budgeted biosecurity communication products have been purchased and are being disseminated</li> </ul>	<ul style="list-style-type: none"> <li>- Records/registers and invoices and receipts at the project office</li> <li>- M &amp; E reports by PCU, PTA, and PAC, prepared throughout project lifespan</li> <li>-Mid-term review report by UNEP/GEF consultants,</li> <li>-Terminal Evaluation report by UNEP/GEF.</li> <li>,- Activity Report by PCU and/or Consultant(s)</li> <li>-Project final report by PCU</li> </ul>	<p><b>1. Assumptions:</b></p> <p>GEF funds together with Government Co-financing are enough to ensure a nation-wide coverage in the communication and awareness raising activities</p> <p><b>2. Risks:</b></p> <p>. Already budgeted GEF funding and co-financing could depreciate in value due to price increase/fluctuation in market commodities and services.</p>	<p>2B, 2C</p>
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Project Outputs	Output Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	PoW Output Reference Number
<p><b>Output C.5. National Biosecurity Information System (NBIS), including a participatory monitoring network using citizen science and modern ICT is operationalized to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols.</b></p>	<p>Number of agreed protocols allowing information exchange within the clearing house system: such that, the International Phytosanitary Portal, the CHM, the CHM, national BCH and ABSCH hubs all connected to the established database can communicate with each other on the platform that is operationalized to monitor and inform risk-based management of species, pathways and ecosystems</p>	<p>There exists a database that was created in the CBP 1 for the exchange of information amongst focal points of biosecurity information hubs.</p>	<p>By end of project, an operationalized and functioning National Biosecurity Information System is in place</p>	<p>-An Online address is available on MINEPDED website and at CIDE</p> <p>- M &amp; E reports by the PCU, PTA &amp; PAC</p> <p>- MTR report by UNEP/GEF consultant(s).</p> <p>- Terminal Evaluation report by UNEP/GEF consultant(s)</p> <p>-Project final report by PCU.</p>	<p><b>1. Assumptions:</b></p> <p>-An understanding of cooperation on information exchange among the national focal points of the biosecurity information hubs is possible.</p> <p><b>2. Risks</b></p> <p>Lack of commitments amongst the focal points of the information hubs could be an issue.</p>	<p>2B, 2C</p>

**ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).**

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).**  
**(Provide detailed funding amount of the PPG activities financing status**  
**in the table below:**

PPG Grant Approved at PIF: \$50,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed*</i>
02 International and 02 National: ? Consultancy cost	15 000	6 200	8 800
Local travel and subsistence ? Data collection	4 000	2 300	1 700
Meetings and Workshops ? Task team working groups (Review and examination of draft and final deliverables)	4 000	4 000	
? Validation workshop of updated deliverables submitted by the consultants	5 500	5 500	
Project Coordination and Management (staff costs and office supplies/consumables)	17 500	17 500	
GENERAL OPERATING AND OTHER DIRECT COST, INDIRECT SUPPORT COST (Implementing Partner) ? Office supplies/consumables for project management ? Communication for project meetings ? Publications, translation and dissemination ? Bank and other related charges	4 000	2 000	2 000
<b>Total</b>	50 000	37 500	12 500

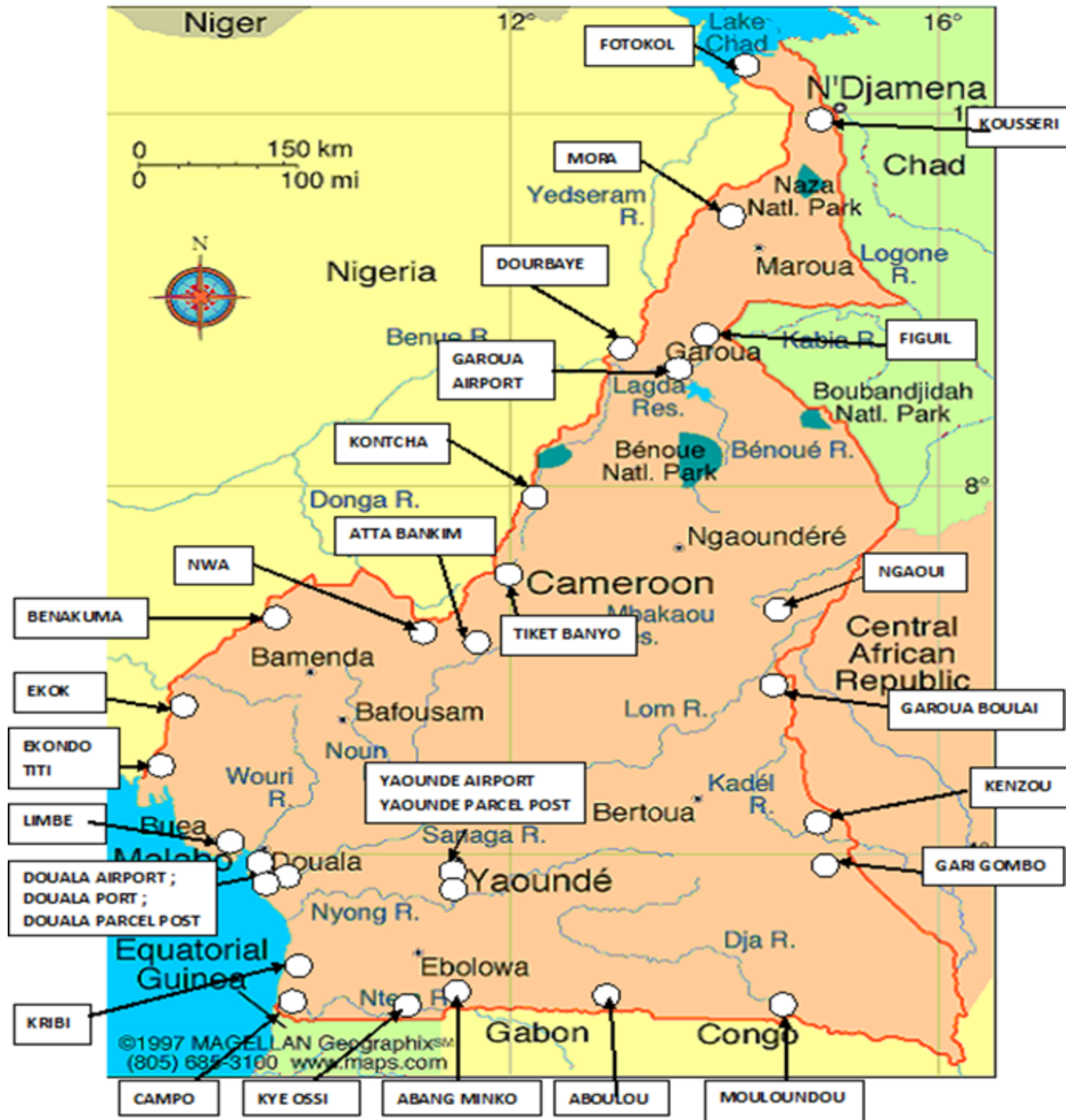
If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue to undertake exclusively preparation activities up to one year of CEO Endorsement/approval date. No later than one year from CEO endorsement/approval date. Agencies should report closing of PPG to Trustee in its Quarterly Report.

\* The amount committed represents engaged funds that will be used to pay service providers who have already performed their services.

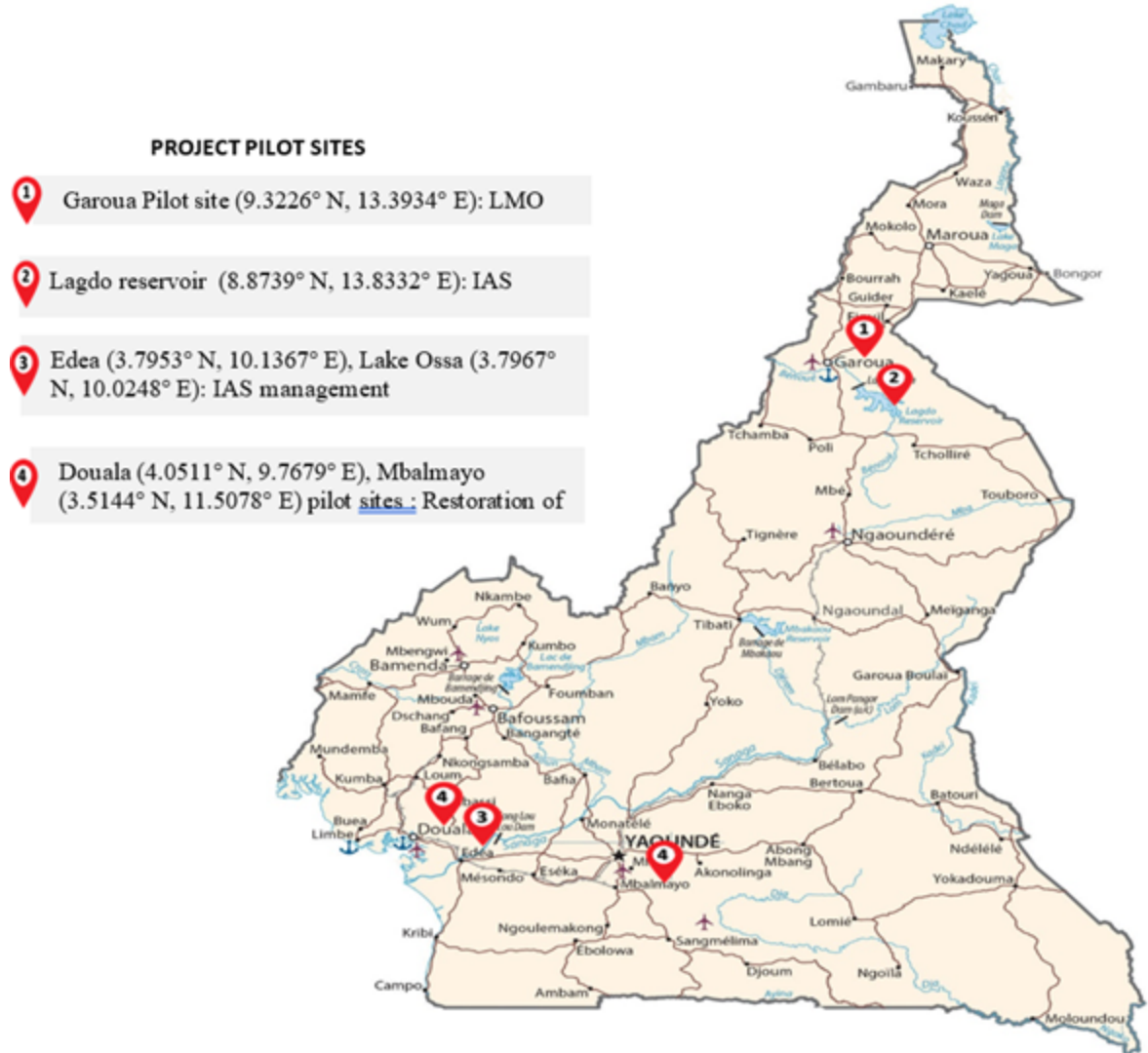
#### **ANNEX D: Project Map(s) and Coordinates**

**Please attach the geographical location of the project area, if possible.**

**Map: Positions of Phytosanitary Posts on the map of Cameroon (Ndikontar 2009)**



Map: Location of identified project pilot sites on the map of Cameroon



Source: *cameroon map gis geography - Google Search* (map adapted to reflect project pilot sites)

Project pilot sites will be required to test the tools developed during CBP I. In this regard, Lake Ossa in the Littoral region and the Lagdo dam in the Northern region have been identified for IAS management of *Salvinia Molesta* and water hyacinth (*Eichhornia crassipes*). In terms of LMO management, the GM cotton trials field sites carried out by SODECOTON and BAYER in Garoua in the Northern region of Cameroon which were terminated in 2020, will be used to test for residual LMOs and simulated actions on risk assessment and risk management in monitoring LMOs. possible contamination of the surrounding cultures. The pilot sites of Douala in the Littoral Region and Mbalmayo in the Central Region of Cameroon will be used to ensure that biosecurity measures are observed in the restoration of degraded landscapes using *Bambusa spp.*, *Irvingia spp.* The biosecurity tools will be tested essentially via simulations and in some cases mock drills.

**ANNEX E: Project Budget Table**

**Please attach a project budget table.**

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Co-Financing Budget



**ANNEX I-2 - RECONCILIATION BETWEEN GEF BUDGET AND CO-FINANCE BUDGET (TOTAL GEF & CO-FINANCE US\$)**

Project title: Implementation and Institutionalization of a National Monitoring and Management												
Project number:												
Project executing partner: Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED)												
Project implementation period:												
From:	If more than 4 sources of co-finance, add columns								*Name of institution providing co-finance			
To:	GEF Cash	Co-finance 1*		Co-finance 2*		Co-finance 3*		Co-finance 4*		Total		
UNEP Budget Line	A	Cash B	In-kind C	Cash D	In-kind E	Cash F	In-kind G	Cash H	In-kind I	Cash A+B+D+F+H	In-kind C+E+G+I	
<b>10 PERSONNEL COMPONENT</b>												
1100 Project personnel										-	-	
1101 National project coordinator	39,600	54,000								93,600	-	
1102 Project managerial and technical support personnel			160,000							-	160,000	
1103 Personnel for the implementation of pilot biosecurity operations			1,300,000							-	1,300,000	
1120 Project administrative assistant	32,400	40,000	162,400							72,400	162,400	
1121 Project finance assistant	32,400	40,000	162,400							72,400	162,400	
<b>1199 Sub-total</b>	<b>104,400</b>	<b>134,000</b>	<b>1,784,800</b>							<b>238,400</b>	<b>1,784,800</b>	
1200 Consultants												
1201 National Consultants to develop a National Biosecurity Strategy (NBS) through a consultative process with key stakeholders (30 days @ \$500/day)	15,000		57,500							15,000	57,500	
1202 National and International Consultants to review and update the 2003 National Biosafety Law to reflect current global evolutions and developments in the implementation of the Cartagena Protocol on Biosafety, COP-MOP Decisions; and the Supplementary Protocol on Liability and Redress (SPLR) specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs (15 days @ \$500 p/d & 18 days @ \$750/day)	21,000		61,700							21,000	61,700	
1203 National and International Consultants to test the national biosecurity tools at pilot site level with regards to Risk-based Management Strategies and Contingency Planning Process And Emergency Response Exercises (25 days @ \$500 p/d & 40 days @ \$750/day)	42,500		90,300							42,500	90,300	
1204 National Consultants to systematically assess the Invasive species distributions in Cameroon and the vulnerability of different climatic zones to different biological invaders in the light of climate change (46 days @ \$500/day)	23,000		60,200							23,000	60,200	
1205 National and International Consultants to incorporate biosecurity measures in the restoration of degraded lands using local plant species and tree products (Bambusa spp, Invingia spp.) (40 days @ \$500 p/d & 30 days @ \$750/day)	42,500		90,300							42,500	90,300	
1206 National and International Consultants to develop a pilot cost recovery mechanism based on the tools and resources used (22 days @ \$500 p/d & 27 days @ \$750 p/d)	31,250		90,300							31,250	90,300	
1207 National Consultants to conduct national trainings on LMO detection, diagnostics and monitoring (36 days @ \$500/day)	18,000		60,200							18,000	60,200	
1208 National Consultants update and implement the National Biosecurity Communications and Awareness-raising Plan (36 days @ \$500/day)	18,000		60,200							18,000	60,200	
1209 National Consultants to develop a Biosecurity information system using citizen science and modern ICT in consultation with stakeholders to monitor and inform risk-based management of species, pathways and ecosystems based on agreed protocols (36 days @ \$500/day)	18,000		60,200							18,000	60,200	
1210 National Consultants to develop and disseminate biosecurity information and communication tools (36 days @ \$500/day)	18,000									18,000		
1211 National Consultants to review and implement the Project Benefit Monitoring and Evaluation plan (24 days @ \$500/day)	12,000	7,000								19,000		
<b>1299 Sub-total</b>	<b>259,250</b>	<b>7,000</b>	<b>630,900</b>							<b>266,250</b>	<b>630,900</b>	
1300 Administrative support												
1301												
1302												
<b>1399 Sub-total</b>												
1600 Travel on official business												
1601 Local travel and subsistence												
1602 Travel related to consultancies	111,120		202,400							111,120	202,400	
1603 Travel related to pilot site activities	44,160		59,200							44,160	59,200	
1605 Travel for the implementation of pilot biosecurity operations												
<b>1699 Sub-total</b>	<b>155,280</b>		<b>261,600</b>							<b>155,280</b>	<b>261,600</b>	
<b>1999 Component total</b>	<b>518,930</b>	<b>141,000</b>	<b>2,677,300</b>							<b>659,930</b>	<b>2,677,300</b>	
<b>20 SUB-CONTRACT COMPONENT</b>												
2100 Sub-contracts (for cooperating agencies)												
2101 Pilot site project staff	40,000		176,000							40,000	176,000	
2102												
<b>2199 Sub-total</b>	<b>40,000</b>		<b>176,000</b>							<b>40,000</b>	<b>176,000</b>	
2200 Sub-contracts (for supporting organizations)												
2201												
2202												
<b>2299 Sub-total</b>												
2300 Sub-contracts (for commercial purposes)												
2301												
2302												
<b>2399 Sub-total</b>												
<b>2999 Component total</b>	<b>40,000</b>		<b>176,000</b>							<b>40,000</b>	<b>176,000</b>	
<b>30 TRAINING COMPONENT</b>												
3200 Group training												
3201 National trainings on LMO detection, diagnostics and monitoring (24 days @ \$500/day)	40,900	5,000	35,500							45,900	35,500	
3202 National trainings on the use of modern equipment and infrastructure for testing & detection of LMOs at biosecurity posts including ports of entry, by relevant Control & Inspection Services of the Competent National Authority (MINEPDED) and other relevant administrative (40 days @ \$500/day)	20,000	5,000	41,800							25,000	41,800	
<b>3299 Sub-total</b>	<b>60,900</b>	<b>10,000</b>	<b>77,300</b>							<b>70,900</b>	<b>77,300</b>	
3300 Meetings/Conferences												
3301 Meetings to review and draft National Biosecurity Strategy (NBS) through a consultative process with key stakeholders (26 days @ \$500/day)	13,000	2,500	64,000							15,500	64,000	
3302 Meetings to review and update the 2003 National Biosafety Law to reflect current global evolutions and developments in the implementation of the Cartagena Protocol on Biosafety, COP-MOP Decisions; and the Supplementary Protocol on Liability and Redress (SPLR) specifically providing National Rules and Procedures in the field of Liability and Redress relating to LMOs (25 days @ \$500/day)	12,500	2,500	16,600							15,000	16,600	
3303 Meetings to reinforce lobbying mechanisms via meetings targeting key decision makers (government officials and parliamentarians) on the need to expedite the process of adoption of the draft biosecurity law and the sustainable operationalization of the National Biosecurity Agency (38 days @ \$500/day)	19,000	2,500	73,000							21,500	73,000	
3304 Meetings to lobby for the implementation of the draft Order on the creation, organization and Functioning of an Ad hoc National Biosecurity Committee developed within the first phase of execution of the project (22 days @ \$500/day)	11,000	2,500	73,000							13,500	73,000	
3305 Location workshop	20,000	3,000	40,000							23,000	40,000	

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit a finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

**ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).